



SAFETY DATA SHEET

US GHS

Revision Date 10-Oct-2016

Version 1

Issue Date No data available

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name WINGFLEX™ 97

Safety data sheet number G4126

Alternate Name None

Recommended Use Production of tires and other rubber products.

Company Name The Goodyear Tire & Rubber Company, 200 Innovation Way, Akron, Ohio 44316-0001 U.S.A.
Goodyear Canada Inc. 450 Kipling Ave. Etobicoke, Ontario M8Z 5E1 Canada

Company Phone Number Technical Assistance 1.330.796.1906

24 Hour Emergency Phone Number Goodyear / 24 hour Assistance 1.330.796.5111

Emergency Telephone Chemtrec (USA) 1.800.424.9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

Emergency Overview

Signal word

Danger

Hazard statements

Harmful if swallowed

Harmful if inhaled

Causes skin irritation

Causes serious eye irritation

May cause cancer

May cause respiratory irritation

Highly flammable liquid and vapor



Appearance clear**Odor** Hydrocarbon-like**Physical state** Liquid**Precautionary statements****Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Use explosion-proof electrical/ventilating/lighting/equipment
 Store in a well-ventilated place. Keep cool
 Wear protective gloves/protective clothing/eye protection/face protection

Response

IF exposed or concerned: Get medical advice/attention

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 If skin irritation occurs: Get medical advice/attention
 Wash contaminated clothing before reuse

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Ingestion

Do NOT induce vomiting
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other hazards

Harmful to aquatic life Harmful to aquatic life with long lasting effects
 5% of the mixture consists of ingredient(s) of unknown toxicity
 No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Dicyclopentadiene	77-73-6	95-99
Isoprene	78-79-5	<1
Cyclopentene	142-29-0	<1
1,3-Pentadiene, (Z)-	1574-41-0	<1
1,3-Pentadiene, (E)-	2004-70-8	<1
.beta.-Amylene-cis	627-20-3	<1

4. FIRST AID MEASURES

First aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible)
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
Skin Contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower If skin irritation occurs: Get medical advice/ attention Wash contaminated clothing before reuse
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion	Do NOT induce vomiting. If swallowed, call a poison control center or physician immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Irritation, Drowsiness, Dizziness.

Indication of any immediate medical attention and special treatment needed

Note to physicians Aspiration hazard

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use: Water spray (fog). Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Extremely flammable. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous combustion products Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing and eye/face protection.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment A vapor suppressing foam may be used to reduce vapors. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Use only non-sparking tools. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Wear protective gloves/protective clothing and eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a well-ventilated place. Keep cool. Store locked up.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH:
Dicyclopentadiene 77-73-6	TWA: 5 ppm	(vacated) TWA: 5 ppm (vacated) TWA: 30 mg/m ³	TWA: 5 ppm TWA: 30 mg/m ³

Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear impervious gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Hydrocarbon-like
Appearance	clear		
Odor threshold	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	None known
Melting point/freezing point	No data available	None known
Boiling point / boiling range	150-190 / 302-374 °F	
Flash point	32 °C / 90 °F	Tag Closed Cup
Evaporation rate	Not applicable	None known
Flammability (solid, gas)	No data available	No information available
Upper flammability limits	No data available	
Lower flammability limit	No data available	
Vapor pressure	2 mm Hg @ 20 C	None known
Vapor density	4.5	
Specific Gravity	0.93	None known
Water solubility	insoluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient	log Pow 2.78 @ 25 C	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known

Other Information

Softening point	No data available
Molecular weight	Not applicable
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY**Reactivity**

Stable under normal conditions

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

May form explosive peroxides. Must be inhibited and maintained under an inert atmosphere to prevent polymerization.

Hazardous polymerization

Polymerization can occur.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Inhalation	Harmful by inhalation. May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
Eye contact	Causes eye irritation.

Skin Contact Causes skin irritation.

Ingestion Harmful if swallowed. May cause additional affects as listed under "Inhalation".

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Dicyclopentadiene 77-73-6	= 346.5 mg/kg (Rat)	= 4380 mg/kg (Rabbit)	= 500 ppm (Rat) 4 h
Isoprene 78-79-5	-	> 1 mL/kg (Rat)	= 180 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms None known.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Irritating to skin.

Serious eye damage/eye irritation Irritating to eyes.

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Isoprene 78-79-5		Group 2B	Reasonably Anticipated	X

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Target Organ Effects Central nervous system, Eyes, kidney, Respiratory system, Skin.

Aspiration hazard No information available.

Unknown Acute Toxicity 5% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 298 mg/kg

ATEmix (inhalation-vapor) 9.5 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

5% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to microorganisms	Daphnia magna (Water Flea)
Dicyclopentadiene 77-73-6	EC50 96 h: > 100 mg/L Pseudokirchneriella subcapitata	LC50 96 h: 10 - 14.2 mg/L static Pimephales promelas LC50 96 h: 11.5 - 17.6 mg/L static Lepomis macrochirus LC50 96 h: 13 - 19.5 mg/L static Oncorhynchus mykiss LC50 96 h: = 23 mg/L Lepomis macrochirus		EC50 48 h: = 11 mg/L Daphnia magna
Isoprene 78-79-5	EC50 96 h: > 1000 mg/L Scenedesmus quadricauda	LC50 96 h: 188.77 - 305.14 mg/L static Poecilia reticulata LC50 96 h: 32.5 - 50.15 mg/L static Lepomis macrochirus LC50 96 h: 58.75 - 95.32 mg/L static		EC50 48 h: = 140 mg/L Daphnia magna

	Pimephales promelas	
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Bioaccumulation

An estimated BCF of 55 suggests the potential for bioconcentration in aquatic organisms is moderate¹.

Mobility

Very slow.

Persistence and degradability

NOT READILY BIODEGRADABLE.

Chemical Name	Partition coefficient
Dicyclopentadiene 77-73-6	2.89
Isoprene 78-79-5	3.2 - 4.5

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal of wastes**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261)

Contaminated packaging

Do not reuse container. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

US EPA Waste Number

D001

14. TRANSPORT INFORMATION

DOT

UN/ID No 2048
 Proper shipping name Dicyclopentadiene
 Hazard Class 3
 Packing Group III
 Description UN2048, Dicyclopentadiene, 3, III
 Emergency Response Guide Number 130

TDG

UN/ID No 2048
 Proper shipping name Dicyclopentadiene
 Hazard Class 3
 Packing Group III
 Marine pollutant This product contains a chemical which, although not listed, meets the IMDG criteria for being a severe marine pollutant.
 Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

MEX

UN/ID No 2048
 Proper shipping name Dicyclopentadiene
 Hazard Class 3
 Packing Group III
 Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

UN/ID No 2048
 Hazard Class 3

Packing Group III
Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

IATA

UN/ID No 2048
Hazard Class 3
Packing Group III
Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

IMDG

UN/ID No 2048
Hazard Class 3
Packing Group III
Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

RID

UN/ID No 2048
Proper shipping name Dicyclopentadiene
Hazard Class 3
Packing Group III
Classification code 3
Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

ADR

UN/ID No 2048
Hazard Class 3
Packing Group III
Classification code 3
Description UN2048, Dicyclopentadiene, 3, III, Marine Pollutant

UN/ID No 2048

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Dicyclopentadiene 77-73-6 (95-99)	X	X	Present		Present	X	Present	X	X
Isoprene 78-79-5 (<1)	X	X	Present		Present	X	Present	X	X
Cyclopentene 142-29-0 (<1)	X	X	Present		Present	X	Present	X	X
1,3-Pentadiene, (Z)- 1574-41-0 (<1)	X		Present		Present		Present	X	
1,3-Pentadiene, (E)- 2004-70-8 (<1)	X	X	Present		Present		Present	X	X
.beta.-Amylene-cis 627-20-3 (<1)	X	X	Present		Present	X	Present		

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Dicyclopentadiene - 77-73-6	77-73-6	99	1.0
Isoprene - 78-79-5	78-79-5	0.99	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Isoprene 78-79-5	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Isoprene 78-79-5	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Isoprene - 78-79-5	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Dicyclopentadiene 77-73-6	X	X	X
Isoprene 78-79-5	X	X	X
Cyclopentene 142-29-0	X	X	X
.beta.-Amylene-cis 627-20-3	X	X	X

International Regulations**Mexico - Grade**

No information available

Chemical Name	Carcinogenicity	Exposure Limits
Dicyclopentadiene		Mexico: TWA 5 ppm Mexico: TWA 30 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

B2 - Flammable liquid
D2A - Very toxic materials
D2B - Toxic materials



Chemical Name	NPRI
Dicyclopentadiene	X
Isoprene	X

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 2	Flammability 3	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 2*	Flammability 3	Physical hazards 0	Personal protection -

* = Chronic Health Hazard

Revision Date 10-Oct-2016

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet