

MATERIAL SAFETY DATA SHEET

It is in compliance with the Regulation on the Preparation and Distribution of Safety Data Sheets for Hazardous Substances and Preparations [Official Gazette: 26.12.2008-27092].

Product Name	Ethylene Propylene Diene Monomer (EPDM) Rubber Gasket	Publication Date	10.02.2018
		Revision Date	31.07.2019
Form Number	FR.01.TL-00002	Version	2
		Regulation Number	R.G. 26.12.2008-27092

1. SUBSTANCE / PRODUCT AND COMPANY / EMPLOYER INTRODUCTION

Product Identification	: Ethylene Propylene Diene Monomer (EPDM)
Product Use	: Segment Sealing Gasket
Producer	: Forta İnşaat ve Sanayi A.Ş. Seba Office Boulevard Ayazağa Mah. Mimar Sinan Sok. No:21 D Blok 48 Sarıyer/ İstanbul
Phone Number	: (+90 212) 215 52 62
Fax	: (+90 212) 215 52 63
e-mail	: info@forta.com.tr
Emergency Phone	: 0212 215 52 62

2. GENERAL PROPERTIES

Physical	: Solid Rubber
Colour	: Black
Odour	: Data is not available.

WARNING

Rubber has a potential risk of causing cancer. Typically, rubber components start to become harmful to health at high temperatures. However, under normal conditions, if handled or used properly, the likelihood of encountering problems decreases. All substances present in rubber are tightly bound to each other within the polymeric matrix and have negligible vapor pressures, resulting in low inhalation potential. However, skin contact is possible.

Potential Health Effect

Eye Contact :

Dust may be generated during grinding or sanding, which can irritate the eyes. Irritation can also occur from contact with decomposition products. If the material comes into contact with the eyes while hot, it can cause serious damage.

Skin Contact:

Prolonged or repeated skin contact can cause irritation. Contact with hot material can result in severe and permanent damage.

Ingestion:

There are no known adverse effects resulting from ingestion.

Chronic Health Effects:

There is a potential risk of cancer in humans. Carbon black has been found to cause cancer in laboratory animals. These substances are bound within the rubber and are not expected to be released.

Potential Physical/Chemical Effects:

This product is not flammable.

3. COMPOSITION OF MATERIALS of

Chemical Name	CAS-No.	Concentration
Carbon Black	1333-86-4	<31%
Ethylene-ethylidenenorbornene-propylene terpolymer	25038-36-2	<26%
Ethylene-propylene copolymer	9010-79-1	<26%
polyalkylbenzene	Yok	<6%
Zinc Oxide	1314-13-2	<3%
1,2- Polibütadieni	9003-17-2	<2%
modified clay	66402-68-4	<2%
1 H-pirol-2,5-dion, 1,1 '- (1,3-fenilen) bis-	3006-93-7	< 1.5%
Peroxide, [1,3 (ya da 1,4) -phenylenebis (1-metiletiliden)] bis [[1,1-dimetiletil]	25155-25-3	< 1.5%

4. FIRST AID MEASURES

Hot Polymer Contact:

Rinse the affected skin with lukewarm water for at least 15 minutes. Then immerse the area in cold water. Never attempt to remove the polymer if it is stuck to the skin, as it can cause serious damage. Seek immediate medical attention.

Eye Contact - Dust:

Flush with plenty of water, ensuring to rinse under the eyelids as well. If irritation persists, continue rinsing the eyes for 15 minutes. If discomfort persists, consult a doctor.

Skin Contact:

Remove contaminated clothing immediately and thoroughly wash the skin with soap and water. If irritation develops, seek medical assistance.

Ingestion:

Rinse the mouth thoroughly. Drink plenty of water. If symptoms occur, seek medical help.

5. FIRE FIGHTING MEASURES

Fire Extinguishing Media:

This product is not flammable. Suitable extinguishing agents should be used for surrounding materials.

Unsuitable Fire Extinguishing Media:

Not applicable.

Special Firefighting Procedures:

Standard firefighting procedures should be followed, considering the hazards of other involved substances.

Unusual Explosion & Fire Hazards:

The product is non-combustible but can generate toxic vapors when heated. Burning or material exposed to temperatures above 300°C may result in the release of noxious fumes.

Hazardous Combustion Products:

Alcohol, carbon dioxide, carbon monoxide, hydrocarbons.

Protective Measures:

Self-contained breathing apparatus and full protective clothing should be worn in case of a fire.

6. PRECAUTIONS AGAINST ACCIDENTAL RELEASE:

Personal Precautions:

Avoid prolonged or repeated contact with the skin. Wear appropriate protective equipment. Refer to Section 8 of the MSDS for personal protective equipment.

Cleaning Methods:

A shovel can be used to clean up spilled material. Refer to Section 13 of the MSDS for waste disposal.

Environmental Precautions:

No specific precautions required.

7. TRANSPORTATION AND STORAGE

Transportation:

All transportation should be conducted in a well-ventilated area. Avoid inhaling generated dust. Avoid contact with eyes and skin. Use protective gloves and appropriate clothing to prevent skin contact. Do not inhale gases produced at high temperatures. Ensure periodic cleaning in the storage area to prevent dust accumulation.

Storage:

Store in a cool and dry place, away from direct sunlight. Keep containers tightly closed to protect against moisture and dirt.

7. PERSONAL PROTECTION

Chemical Name	Resource	Type	Exposure Limits	Notes
Carbon Black	ACGIH	TLV/A	3.5 mg/m ³	
Carbon Black	NIOSH	Concentration	1750 mg/m ³	
Carbon Black	US. OSHA Tab. Z-1	TLV/A	3.5 mg/m ³	
Zinc Oxide (Respirable fraction)	ACGIH	STEL	10 mg/m ³	
Zinc Oxide (Respirable fraction)	ACGIH	TLV/A	2 rmg/m ³	
Zinc Oxide	NIOSH	Concentration	500 rmg/rn ³	
Zinc Oxide (Respirable fraction)	OSHAZ3	TLV/A	15 Mppcf 15 mg/m ³	
Zinc Oxide (Total dust)	OSHAZ3	TLV/A	50 Mppcf 15 rmg/rn ³	
Zinc Oxide (fume)	US. OSHA Tab. Z-1	TLV/A	5 rmg/m ³	
Zinc Oxide (Respirable fraction)	US. OSHA Tab. Z-1	TLV/A	5 rmg/m ³	

Engineering Controls:

Ensure adequate ventilation. If dust or fumes are generated, use general ventilation in the area where the worker is present.

Respiratory Protection:

Individuals exposed to inhalation should use respiratory protection equipment.

Eye Protection:

If there is a risk of contact with hot materials, it is recommended to use protective goggles or a face mask.

Hand Protection:

Long-term use of gloves is advised. This material prevents thermal burns when heated.

Skin Protection:

Good industrial hygiene should be practiced to minimize skin contact. Use long-sleeved clothing or a durable apron to protect against contact with chemicals and hot materials during work.

Hygiene Measures:

After handling such materials, wash your hands before eating, drinking, or smoking. Regularly wash daily-worn clothes.

8. PHYSICAL AND CHEMICAL PROPERTIES

Color: Black
Odor: No data available
Odor Threshold: Appropriate data not available
Physical State: Solid rubber
pH: Not applicable
Melting Point: Data not available
Freezing Point: Data not available
Boiling Point: Not applicable
Flash Point: Not applicable
Evaporation Rate: Not applicable
Flammability (Solid): Appropriate data not available
Upper Flammability Limit (%): Not applicable
Lower Flammability Limit (%): Not applicable
Vapor Pressure: Not applicable
Vapor Density (Air = 1): Not applicable
Specific Gravity: 1.2 g/cm³
Solubility in Water: Insoluble
Solubility (Other): Not applicable
Partition Coefficient (n-Octanol/Water): Not applicable
Autoignition Temperature: Not applicable
Decomposition Temperature: Appropriate data not available
Explosive Properties: Appropriate data not available.

9. STABILITY AND REACTIVITY

Stability: This product is stable under recommended conditions and normal temperature.

Handling Precautions: Avoid contact with oxidizing agents.

Incompatible Materials: Generally, elastomers are incompatible with strong oxidizing and reducing agents.

Hazardous Decomposition Products (at High Temperatures): Alcohols, carbon dioxide, carbon monoxide, hydrocarbons.

Possibility of Hazardous Reactions: As the product is fully polymerized, there is no possibility of hazardous reactions.

10. TOXICOLOGIC INFORMATION

ACUTE TOXICITY:

Chemical Name of Composites	Test Results
1 H-pirol-2,5-dion, 1,1' - (1,3-fenilen) bis-	Inhalasyon LC50 (4 hour (ler), Fare): 55 mg / m3
1 H-pirol-2,5-dion, 1,1' - (1,3-fenilen) bis-	Oral LDS0 (Fare): 1370 mg/kg
Carbon Black	Dermal LDS0 (Tavşan):> 3000 mg/kg
Carbon Black	Oral LDS0 (Fare):> 15400 mg/kg
Peroksit, [1,3 (ya da 1,4)-phenylenebis (1-metiletiliden)] bis [[1,1-dimetiletil]	Oral LDS0 (Fare): 23000 mg/kg

Listed Carcinogens: Carcinogens are substances that are known or suspected to cause cancer in humans and are listed as such in the rubber industry (Group 1).

Carbon Black: According to studies conducted on animals, carbon black is considered a definite carcinogen. Animals exposed to high doses of carbon black through inhalation have developed lung fibrosis and tumors. Epidemiological studies have shown bronchitis, pneumonia, emphysema, and increased cancer findings in workers. However, a polymer or a polymer bonded with another matrix is less hazardous or presents no hazard at all.

Product Information: Other Acute Effects: The basic components used in this product undergo reactions, and the product no longer retains its original properties. The finished product has polymerized into polyacrylic rubber, and the original components are not expected to exhibit behavior under normal conditions. Like high molecular weight polymers, this product should be recognized to have acute and health effects. When this material reaches temperatures exceeding 300°C and begins to burn, it produces irritating and toxic fumes. The type of compounds formed generally depends on the temperatures and conditions. The health effects of the resulting fumes are often as follows: headache, nausea, drowsiness, eye irritation, skin irritation, respiratory tract irritation, etc. Some decomposed substances absorbed through the skin can be toxic. When this product is ground or sanded, fumes are generated, and if these fumes are present in high concentration, they can affect the lungs.

Chronic Toxicity: Possible cancer hazard based on data from animal studies.

11. ECOLOGIC INFORMATION

Ecotoxicity: The substances contained in this product can have an impact on aquatic organisms and may cause long term adverse effects.

Symptoms Substances:

Chemical Name	Test
Carbon Black	EC50 (24 saat (1er), Nymph):> 5600 mg/l
Carbon Black	EC50 (72 saat (1er), Tang):> 10000 mg/l
Carbon Black	LC50 (96 saat (1er), Zebrafish):> 1000 mg / 1

Mobility: The product is not volatile. The product is insoluble in water.

Persistence and Degradation: No data available on durability and degradation.

Bioaccumulation Potential: No data available on bioaccumulation

12.DISPOSAL INFORMATION

General Information:Dispose of the waste according to the provided information.

Disposal Methods:There are no specific methods identified.

Container: Empty containers may still contain product residues. Apply warning labels to emptied containers.

13.TRANSPORTATION INFORMATION

DOT Not Regulated.

TDG Not Regulated.

IATA Not Regulated.

IMDG Not Regulated.

a. MEVZUAT BiLGiSi

WHMIS Classification: D2A

Inventory Analysis : All the information is available except for EINECS, DSL, or TSCA in the listed content.

US Regulation

CERCLA Dangerous Substance List (40 CFR 302.4): None.

SARA Baslık III

Section 302 High Hazardous Substances (40 CFR 355): None.

Section 311/312 (40 CFR 370): Chronic (Delayed).

Section 313 Toxic Release Inventory (40 CFR 372):

Chemical Name	CAS-No.	Concentrate
Zincoxide	1314-13-2	<3%

Drug Control Law: Not applicable.

ISafety Statements: Avoid any contact with zinc oxide and carbon black.

b. OTHER INFORMATION

DANGEROUS VALUE

	Health Dangerous	Fire Dangerous	Raction Dangerous	Particular Dangerous
NFPA	1	1	0	--

	Health Dangerous	Fire Dangerous	Raction Dangerous	Particular Dangerous
HMIS	1*	1	0	B

0 - least; 1- Light; 2 - Medium; 3 - Critical; 4 - High* - Cronic Health Effects; B – Safety Glasses and Gloves

STATU

Warning: The information provided in this data sheet does not include specific safety data sheets, occupational health, and toxicology references. The values given here are based on our current knowledge. It is the responsibility of the consumer to consider relevant national and international laws and treaties.

ACTIVE AGENT: ETHYLENE PROPYLENE DIEN MONOMER RUBBER

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Carbon Black	1333-86-4	<31%
Ethylene-ethylidenenorbornene-propylene terpolymer	25038-36-2	<26%
Ethylene-propylene copolymer	9010-79-1	<26%
Polialkilbenzin	None	<6%
Zinc Oxide	1314-13-2	<3%
1,2- Polibütadieni	9003-17-2	<2%
modified clay	66402-68-4	<2%
1 H-pirol-2,5-dion, 1,1' - (1,3-fenilen) bis-	3006-93-7	< 1.5%
Peroksit, [1,3 (ya da 1,4)-phenylenebis (1-metiletilden)] bis [(1,1-dimetiletil)	25155-25-3	< 1.5%

EPDM rubber has high chemical resistance. It is suitable for all vulcanized EPDM processing methods. The product is available in black and opaque colors.

- Long-term resistance to heat
- Non-propagation of flames in case of fire (Relevant standard and test report are included in the file)
- High resistance to chemicals and good resistance to ozone, with limitations on oil and water absorption