

FLEXITALLIC L.P.

Material Safety Data Sheet

No. FDP-017

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Contact Number 281-604-2400

GENERAL INFORMATION

Manufacturer:

Flexitallic Limited

Scandinavia Mill, Hunsworth Lane

Cleckheaton, West Yorkshire, England BD19 5BT

Common Name, Trade Name, or Specification:

AF 2150 (AFM 2100) Sheet Gasket Material

DOT Hazard

Code - N/A

1. HAZARDOUS INGREDIENTS AND EXPOSURE LIMITS

Although several of the ingredients used to formulate this product may be hazardous in the raw state, the manufacturing process results in a solid, infusible form, binding or otherwise rendering the mixture inert. We have identified below those hazardous constituents present in quantities greater than 1% (0.1% for carcinogens) that may be released from the product by overheating, burning, machining, abrading, or riveting.

Component	CAS #	%	OSHA PEL	ACGIH TLV
Nickel	7440-02-0	<25	1 mg/m ³	1 mg/m ³
Chromium	7440-47-3	<25	0.5 mg/m ³	0.5 mg/m ³
Molybdenum	7439-98-7	<25	10 mg/m ³	10 mg/m ³
Rubber	None	<20	N/A	N/A
Barium Sulfate	7727-43-7	<15	10 mg/m ³ (total dust)	10 mg/m ³ (total dust)
Calcium Carbonate	1317-65-3	<25	15 mg/m ³ (total dust)	10 mg/m ³
Sodium Carbonate	497-19-8	<1	N/A	N/A
Silica(Quartz)	14808-60-7	<12	0.1 mg/m ³ (total dust)	0.1 mg/m ³ (total dust)
Fibrous Glass	NONE	<5	15 mg/m ³ (total dust)*	10 mg/m ³
Phenolic Resin	None	<1	N/A	N/A
Acrylonitrile	107-13-1	<1	2 ppm	2 ppm
Methyl Isobutyl Ketone	108-10-1	<1	205 mg/m ³	50 ppm
Ethyl Alcohol	64-17-5	<1	1900 mg/m ³	1000 ppm
Methyl Ethyl Ketone	78-93-3	<1	590 mg/m ³	200 ppm

* The formulation for this product is made with continuous filament fibrous glass. If the end product is finely ground, a fibrous glass dust may result which has a proposed OSHA PEL of 1 f/cc and a NIOSH REL of 3 f/cc.

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

Melting Point - None
Color - Blue

Solubility in water - Insoluble
Specific Gravity - 1.5 - 2.0

Odor -Rubber
Form - Solid

3. FIRE AND EXPLOSION DATA

Auto-ignition Temperature: This product is inherently flame resistant.

Flammable Limits in Air: % in Air by Volume: LEL: N/A UEL: N/A

Extinguisher Media: Carbon dioxide, chemical, or foam

Special Firefighting Procedure: Material in or near fires should be cooled with a water spray or fog. A self-contained breathing apparatus, operating in the positive pressure mode, and full fire fighting protective clothing should be worn for combative fires.

Unusual Fire and Explosion Hazards: Thermal decomposition or combustion may produce dense smoke, oxides of carbon, and low molecular weight organic compounds whose composition has not been characterized.

4. PHYSICAL HAZARDS AND REACTIVITY DATA

Stability: Stable at normal temperatures and storage conditions

Incompatibility: None

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not polymerize. This product is fully cured in the manufacturing process.

5. HEALTH HAZARDS				
Carcinogenicity:	NTP Listed	IARC Listed	NIOSH Listed	OSHA Listed
Nickel	Yes	Yes*	Yes	No
Chromium	No	No	No	No
Molybdenum	No	No	No	No
Phenolic Resin	No	No	No	No
Acrylonitrile	Yes	Yes**	Yes	Yes
M.I.B.K	No	No	No	No
Ethyl Alcohol	No	No	No	No
M.E.K	No	No	No	No
Barium Sulfate	No	No	No	No
Silica(Quartz)	Yes	Yes***	Yes	No
Rubber	No	No	No	No
Sodium Carbonate	No	No	No	No
Calcium Carbonate	No	No	No	No
Fibrous Glass	No	No****	No	No

* IARC classifies nickel as "carcinogenic to human." (Group 1)

** IARC classifies acrylonitrile as "probably carcinogenic to humans." (Group 2A)

*** IARC classifies quartz as "probably carcinogenic to humans." (Group 2A)

**** IARC classifies "continuous filament glass dust" as "not classifiable with respect to human carcinogenicity." (Group 3) IARC and NTP classify "fibrous glass dust" as "possibly carcinogenic to humans." (Group 2B)

Symptoms and Effects of Exposure to the Individual Components:

NICKEL

Inhalation hazards - Prolonged exposure may cause headache, vertigo, nausea, and vomiting, and may cause reproductive problems. IARC classifies nickel as "carcinogenic to humans." (Group 1) **Other hazards** - Acute contact exposure may cause allergic contact dermatitis, pulmonary asthma, conjunctivitis, and inflammatory reactions around nickel-containing medical implants and prostheses. Prolonged contact may cause substernal pain, cough, hyper-pnea, weakness, cyanosis, leukocytosis, pneumonitis, convulsions, and delirium. Ingestion may produce gastroenteric irritation resulting in vomiting, inflammation, and epigastric pain.

CHROMIUM

Inhalation hazards - Acute: exposure may result in cough and irritation of the respiratory system. Chronic: Prolonged exposure may cause histologic fibrosis of the lungs. **Other hazards** - Poisonous by ingestion; may cause severe gastrointestinal irritation.

MOLYBDENUM

Inhalation hazards - Dust may cause irritation of nasal and respiratory passages. **Other hazards** - Molybdenum may be an eye irritant. Ingestion may cause diarrhea, loss of weight, liver and kidney damage.

RUBBER (POWDERED)

Inhalation hazards - May cause mild irritation of respiratory tract. Repeated and prolonged inhalation of dust may lead to a benign pneumoconiosis. This condition may cause some lung function impairment but is reversible with reduced exposure. **Other hazards** - Eyes - may cause mild transient eye irritation.

BARIUM SULFATE

Inhalation hazards - Should be treated as a nuisance dust. Exposure to Barium Sulfate may cause paroxysmal coughing, wheezing, difficult breathing and upper respiratory tract irritation. **Other hazards** - No adverse effects have been reported from ingestion. Eye contact may cause temporary discomfort and irritation.

SODIUM CARBONATE

Inhalation hazards - moderately toxic by inhalation and subcutaneous routes. Other hazards - Poison by intraperitoneal route. May irritate eyes and skin on contact.

CALCIUM CARBONATE

This substance is a severe eye irritant and moderate skin irritant. Calcium carbonate is a common air contaminant.

SILICA DUST

Inhalation hazards - Acute: Exposure to silica dust may cause paroxysmal coughing, wheezing, dyspnea and upper respiratory tract irritation. Chronic: Prolonged exposure to silica dust may cause silicosis. Quartz has been classified by IARC as "probably carcinogenic to humans." (Group 2A) **Other hazards** - Eye or skin contact can cause temporary discomfort and irritation.

FIBROUS GLASS

Inhalation hazard - Acute: mechanical irritation of mouth, nose, throat. Itching and irritation of upper respiratory tract. **Other hazards** - transient mechanical irritation to skin. Direct contact with eyes will cause mechanical irritation. May cause unpleasant deposits in eyes, ears and nasal passages. IARC categorizes "continuous filament glass dust" as not classifiable relative to human carcinogenicity (Group 3). However, if the end product is finely ground, a fibrous glass dust may result, which IARC classifies as "possibly carcinogenic to humans" (Group 2B).

PHENOLIC RESIN

Inhalation hazards - Dust may cause irritation of nasal and respiratory tracts. If formaldehyde vapors are present, inhalation may cause a form of nasal cancer. Other hazards - Prolonged exposure can cause irritation, redness, and tearing of the eyes and may lead to sensitization of the skin and dermatitis.

ACRYLONITRILE

Inhalation Hazards - Exposure to acrylonitrile may cause somnolence, general anesthesia, cyanosis, and diarrhea. Symptoms include flushing of the face, salivation, irritation of the eyes and nose, photophobia, deepened respiration, nausea, weakness, and headache. IARC classifies acrylonitrile as "probably carcinogenic to humans." (Group 2A) **Other hazards** - Acrylonitrile is a human systemic irritant and may be poisonous by skin absorption and ingestion. Target organs include the liver, central nervous system, brain, kidneys, and cardiovascular system.

METHYL ISOBUTYL KETONE (HEXONE)

Inhalation hazards - M.I.K. is a systemic irritation. **Other hazards** - exposure will irritate skin, eyes and mucous membranes. Moderately toxic by ingestion. Narcotic in high concentrations.

ETHYL ALCOHOL

Inhalation hazards - Moderately toxic if inhaled, may cause cough or irritation of lungs. **Other hazards** - Ethyl Alcohol is moderately toxic by ingestion. May cause sleep disorders, convulsions, nausea or coma. Prolonged exposure may cause headache, irritation of the eyes and skin.

METHYL ETHYL KETONE (M.E.K.)

Inhalation hazards - M.E.K. is a systemic irritation. **Other hazards** - Moderately toxic by ingestion, skin

contact, and imperitoneal routes. Will irritate eyes and nasal passages.

6. FIRST AID

Inhalation: Move to fresh air. Obtain medical attention.

Eyes: Flush with water to remove particulate. Obtain medical attention.

Skin: Wash thoroughly with soap and water. If persistent irritation develops, obtain medical attention.

Ingestion: Obtain medical attention.

7. SPECIAL PRECAUTIONS AND SPILL / LEAK PROCEDURES

Handling and Storage : Shipping and storage may result in accumulation of dust in shipping containers. If this occurs, dispose of the container in an airtight polyethylene bag (see disposal instructions below) or remove dust by vacuuming or wet mopping. Vacuums used for this purpose should be equipped with HEPA filters. Do not use compressed air to blow dust from storage containers.

Release or Spill : If a release of dust occurs during machining, abrading, or riveting, remove dust by vacuuming or wet mopping. Vacuums used for this purpose should be equipped with HEPA filters. Do not use compressed air to blow dust from the workplace.

Waste Disposal : Disposal of solid waste is regulated by federal and state law. Waste should be placed in airtight containers, and disposed of properly. Contact local regulatory agency for guidance.

8. PERSONAL PROTECTION AND CONTROL

Respiratory Protection : Use NIOSH-approved respirator if exposure to dust, vapors, or fumes in concentrations exceeding PEL's or TLV's is possible. (See 29 CFR 1910.134 for respiratory protection standards)

Ventilation : Any operations which may produce dust, including machining, grinding, riveting, or abrading of this product, should be adequately exhausted to prevent inhalation of dust.

Personal Protective Equipment : Suitable respiratory protection should be worn if dust exposure is possible. All regulations and safe practices related to the use of respiratory protection must be observed. Refer to OSHA standards and NIOSH guidelines. If skin irritation occurs, gloves and other protective garments may be worn.

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