

# FLEXITALLIC L.P.

## Material Safety Data Sheet

No. FDP-2/008  
REVISED: 13 July 2009  
Contact Number 281-604-2400

### GENERAL INFORMATION

Manufacturer:  
Flexitallic L.P.  
6915 LaPorte Road  
Deer Park, Texas 77536

Common Name, Trade Name, or Specification:

**Flexicarb SR (Stainless Foil Reinforced)**  
**MRG - Flexible Graphite (Coated Metal)**  
**Flexicarb WR (Wire Reinforced)**

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 Number	%	OSHA PEL	ACGIH TLV
Nickel	7440-02-0	<10	1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>
Chromium	7440-47-3	<15	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>
Molybdenum	7439-98-7	<3	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Rubber	None	<1	N/A	N/A
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 <sup>3</sup>	50 ppm
Ethyl Alcohol	64-17-5	<1	1900 mg/m <sup>3</sup>	1000 ppm
Methyl Ethyl Ketone	78-93-3	<1	590 mg/m <sup>3</sup>	200 ppm
Graphite	7782-42-5	<95	2.5 mg/m <sup>3</sup> (respirable)	2.0 mg/m <sup>3</sup> (resp)

## 2. PHYSICAL AND CHEMICAL CHARACTERISTICS

Melting Point - None  
Color - Black

Solubility in water - Insoluble  
Specific Gravity - 1.0 - 1.5

Odor -Hydrocarbon  
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
Graphite	No	No	No	No
Rubber	No	No	No	No

\* IARC classifies nickel as "carcinogenic to humans." Group 1

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

### 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.

### **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.

### **GRAPHITE**

**Inhalation hazards** - Acute: exposure may result in cough, dyspnea, black sputum, and fibrosis. Chronic: Prolonged exposure may cause pneumoconiosis. It is reported that diseases of the respiratory and cardiovascular system may be aggravated by exposure.

## 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.

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date of revision. Flexitallic, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability, including direct, incidental or consequential damages for any reliance thereon.

This MSDS should not be used as a complete or accurate summary of the content of the product. For specific information on brand names, manufacturer's, or quantities, please refer to specific product specification documents where available.