Toledo, Ohio 43560
(800) 676-3920 TEL
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Material Safety Data Sheet (MSDS)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FLuoroelastomer Sheet Rubber
PRODUCT CODES: F-1360, F1375, F1475
MANUFACTURER: FKM-Industries Inc.
ADDRESS: 8432 Central Ave. Unit 3
Toledo, Ohio 43560

EMERGENCY PHONE: 1 419-843-6058

Issue Date: 04/18/2006
Supercedes Date:
Product Use:
Intended Use: GENERIC MSDS -
Specific Use: MANUFACTURE MOLDED PARTS

SECTION 2: INGREDIENTS

Ingredient C.A.S. No. % by Wt
TETRAFLUORAETHELENE-VINYLIDENE FLUORIDE-HEXAFLUOROPROPYLENE POLYMER 9011-17-0 55 - 95
CARBON BLACK 1333-86-4 0 - 35
BARIUM SULFATE 7727-43-7 0 - 25
QUARTZ SILICA 14808-60-7 0 – 18
ZINC OXIDE 1307-51 0-5
MAGNESIUM OXIDE 1309-48-4 1 - 5
CALCIUM HYDROXIDE 1305-62-0 1 - 5
CALCIUM OXIDE 1305-78-8 0 - 3
VBPH 50%
PENTAERYTHRITOL, TETRASTEARATE 115-83-3 0 - 2
4,4'-(HEXAFLUOROISOPROPYLIDENE)DIPHENOL
BENZYLTRIPHENYLPHOSPHONIUM SALT (1:1)
Trade Secret 0 - 1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: RUBBERY SOLID
Odor, Color, Grade: Black, Rubbery Solid.
General Physical Form: Solid
Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause thermal burns. May cause severe skin irritation. Contains a chemical or chemicals which can cause cancer. May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

During heating:
Vapors from heated material may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Thermal Burns: Signs/symptoms may include severe pain, redness and swelling, and tissue destruction.

Skin Contact:
Severe Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
During heating:
Thermal Burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction.

Inhalation:
During heating:
Vapors from heated material may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Polymer Fume Fever: Sign/symptoms may include chest pain or tightness, shortness of breath, cough, malaise, muscle aches, increased heart rate, fever, chills, sweats, nausea and headache.
If thermal decomposition occurs:
May be absorbed following inhalation and cause target organ effects.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, nausea, diarrhea and vomiting.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.
Carbon Black has not been listed as a carcinogen by the National Toxicology Program (NTP) or the Occupational Safety and Health
Administration (OSHA). The National Institute of Occupational Safety and Health (NIOSH) criteria document on Carbon Black recommends that only Carbon Black with PAH levels greater than 0.1% be considered suspect carcinogens. The Carbon Black in this
product contains less than 0.1% of adsorbed PAHs (Polynuclear Aromatic Hydrocarbons).

Ingredient C.A.S. No. Class Description Regulation
CARBON BLACK 1333-86-4 Group 2B International Agency for Research on Cancer
QUARTZ SILICA 14808-60-7 Group 1 International Agency for Research on Cancer
QUARTZ SILICA 14808-60-7 Known human carcinogen National Toxicology Program Carcinogens

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES
The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of cold water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Get immediate medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature *Not Applicable*
Flash Point *Not Applicable*
Flammable Limits - LEL *Not Applicable*
Flammable Limits - UEL *Not Applicable*

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Exposure to extreme heat can give rise to thermal decomposition. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact with dust or airborne particles. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact with hot material. Do not breathe thermal decomposition products. No smoking:
Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to polymer fume fever caused by
the formation of the hazardous decomposition products mentioned in the Reactivity Data section of this MSDS. Store work clothes separately from other clothing, food and tobacco products. Avoid contact with oxidizing agents. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate,
use respiratory protection equipment.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust when product is heated. General ventilation adequate below 400 C. Local exhaust recommended above 400 C. For those situations where the fluid might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.
The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

8.2.2 Skin Protection

Avoid skin contact with hot material. Wear appropriate gloves, such as Nomex, when handling this material to prevent thermal burns.
Avoid skin contact.
Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with
your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene, Polyethylene.

8.2.3 Respiratory Protection
Avoid breathing of vapors created during extrusion or processing at elevated temperatures.
Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Fullface supplied-air respirator, Half facepiece or fullface pressure demand self-contained breathing apparatus.

8.2.4 Prevention of Swallowing
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
BARIUM SULFATE	ACGIH	TWA	10 mg/m3	
BARIUM SULFATE	OSHA	TWA, respirable	5 mg/m3	Table Z-1
BARIUM SULFATE	OSHA	TWA, Vacated, as dust	10 mg/m2	
BARIUM SULFATE	OSHA	TWA, as total dust	15 mg/m3	Table Z-1
CALCIUM HYDROXIDE	ACGIH	TWA	5 mg/m3	
CALCIUM HYDROXIDE	OSHA	TWA, respirable	5 mg/m3	Table Z-1
CALCIUM HYDROXIDE	OSHA	TWA, as total dust	15 mg/m3	Table Z-1
CALCIUM OXIDE	ACGIH	TWA	2 mg/m3	
CALCIUM OXIDE	OSHA	TWA	5 mg/m3	Table Z-1
CARBON BLACK	ACGIH	TWA	3.5 mg/m3	Table A4
CARBON BLACK	CMRG	TWA	0.5 mg/m3	
CARBON BLACK	OSHA	TWA	3.5 mg/m3	Table Z-1
MAGNESIUM OXIDE	ACGIH	TWA, as fume	10 mg/m3	Table A4
MAGNESIUM OXIDE	OSHA	TWA, as total dust	15 mg/m3	Table Z-1
QUARTZ SILICA	ACGIH	TWA, respirable	0.05 mg/m3	Table A2
QUARTZ SILICA	OSHA	TWA, respirable	0.1 mg/m3	Table Z-1A
STEARATES	ACGIH	TWA, as total dust	10 mg/m3	Table A4

VAC Vacated PEL: Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local
regulatory agency.

SOURCE OF EXPOSURE LIMIT DATA:
ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	RUBBERY SOLID
Odor, Color, Grade:	Black, Rubbery Solid.
General Physical Form:	Solid
Autoignition temperature	*Not Applicable*
Flash Point	*Not Applicable*
Flammable Limits – LEL	*Not Applicable*
Flammable Limits – UEL	*Not Applicable*
Boiling point	*Not Applicable*
Density	1.8 g/cm3
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*

Specific Gravity	1.8 [*Ref Std:* WATER=1]
pH	*Not Applicable*
Melting point	*Not Applicable*
Solubility In Water	*Not Applicable*
Solubility in Water	Negligible
Evaporation rate	*Not Applicable*
Volatile Organic Compounds	*Not Applicable*
Percent volatile	*Not Applicable*
VOC Less H2O & Exempt Solvents	*Not Applicable*
Viscosity	*Not Applicable*

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents; Heat; Al or Mg powder and high/shear temperature conditions

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Tetrafluoroethylene	At Elevated Temperatures
Hexafluoropropylene	At Elevated Temperatures
Carbonyl Fluoride	At Elevated Temperatures
Carbon monoxide	At Elevated Temperatures
Carbon dioxide	At Elevated Temperatures
Hydrogen Fluoride	At Elevated Temperatures
Perfluoroisobutylene (PFIB)	At Elevated Temperatures
Toxic Vapor, Gas, Particulate	At Elevated Temperatures

Hazardous Decomposition: Hydrogen fluoride has an ACGIH Threshold Limit Value of 3 parts per million (as fluoride) as a Ceiling
Limit and an OSHA PEL of 3 ppm of fluoride as an eight hour Time-Weighted Average and 6 ppm of fluoride as a Short Term Exposure Limit. The odor threshold for HF is 0.04 ppm, providing good warning properties for exposure.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
Not determined.

CHEMICAL FATE INFORMATION
Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a sanitary landfill. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 14: OTHER INFORMATION

NFPA Hazard Classification

Health: 3 **Flammability:** 0 **Reactivity:** 0 **Special Hazards:** None
National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the
inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to
be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 0 **Reactivity:** 0 **Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These
ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

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