PRODUCT NAME: Ferodo FA-906
PRODUCT IDENTIFICATION: TS4220EE, NSS4250EE

MANUFACTURER'S NAME:
Federal Mogul Friction Products
1 Grizzly Lane
Smithville, TN 37166

EMERGENCY TELEPHONE NUMBER:
1-800-251-3228 (ext 431)

SUPPLIER'S NAME:
Rayloc
Division Of Genuine Parts Company
3100 Windy Hill Road
Atlanta, GA 30339

REVISION DATE:
Nov. 1, 2012

SECTION 2: HAZARDOUS INGREDIENTS

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 NO.	%	OSHA PEL	ACGIH TLV
Aramid Fiber	26125-61-1	<5	2 fibers/cc (resp)*	N/A
Graphite	7782-42-5	<10	15 mppcf	2.0 mg/m3 (resp.)
Ceramic Fibers	None	<6	1 fiber/cc (SOHIO)**	N/A
Silica (Quartz)	14808-60-7	<1	0.1 mg/m3 (resp.)	0.1 mg/m3 (resp.)
Barium Sulfate	7727-43-7	<15	15 mg/m3 (total dust)	10 mg/m3
Steel Fiber	None	<10	10 mg/m3	10 mg/m3

			(total dust)	(total dust)
Carbon Black	1333-86-4	<3	3.5 mg/m3	3.5 mg/m3
Acrylontrile	107-13-1	<1	2 ppm	2 ppm
Hydrated Lime	1305-62-0	<7	15 mg/m3 (total dust)	5 ppm

SECTION 2: HAZARDOUS INGREDIENTS (cont.)

COMPONENT	CAS NO.	%	OSHA PEL	ACGIH TLV
Whiting	Mixture	<13	N/A	N/A
Mineral Wood	None	<6	1 fiber/cc (proposed)***	N/A

N/A = Not applicable or Available

* No OSHA limits has been established for this substance. The limit shown is a recommended limit established by DuPont, a manufacturer of aramid fibers (kevlar)

** No OSHA limit has been established for this substance. The limits shown is a recommended limit established by the manufacturer. The TLV-TWA is under further review. A value no greater than 0.5 f/cc or less than 0.1 f/cc will be considered based upon data currently available.

*** No OSHA limit has been established for this substance. The value shown is a proposed limit recommended by the manufacturer trade association (TIMA). ACGIH lists a TLV Notice of Intended Changes to 1 f/cc

SECTION 3: HAZARDS IDENTIFICATION

CARCINOGENICITY	NTP LISTED	IARC LISTED	NIOSH LISTED	OSHA LISTED
Aramid Fibers	No	No	No	No
Ceramic Fibers	Yes	No*	No	No
Silica (Quartz)	Yes	Yes**	Yes	No
Barium Sulfate	No	No	No	No
Steel Fiber	No	No	No	No
Carbon Black	No	Yes***	No	No

Hydrated Lime	No	No	No	No
Acrylonitrile	Yes	Yes***	Yes	Yes
Whiting	No	No	No	No
Graphite	No	No	No	No
Mineral Wood	No	No****	No	No

* ACGIH classifies refractory ceramic fibers as "suspected human carcinogen" (TLV-A2)

** IARC classifies quartz as "carcinogenic to humans" (Group 1)

*** IARC classifies acrylonitrile and Carbon Black as "possible carcinogenic to human" (Group 2B

**** IARC classifies man made mineral fibers (diameter <1 um) as "possible carcinogenic to humans" (Group 2B) ACGIH classifies synthetic vitreous fibers (rock wool fibers) as "animal carcinogen).

SYMPTOMS AND EFFECT OF EXPOSURE TO THE INDIVIDUAL COMPONENTS:

ARAMID FIBERS:
INHALATION HAZARDS:
Overexposure to respirable fibers by inhalation may cause mild and temporary upper respiratory irritation, with discomfort or cough. Based on animal testing, prolonged and repeated exposure to excessive concentrations of respirable fibers may cause permanent lung injury.

OTHER HAZARDS:
Skin sensitization has not been observed in human tests. The mechanical action of fibers may cause slight skin irritation at clothing binding points and mild irritation of the eyes and nasal passages.

CERAMIC FIBERS:
INHALATION HAZARDS:
Overexposure to respirable fibers by inhalation may cause mild and temporary upper respiratory irritation with discomfort or cough. ACGIH classifies refractory ceramic fibers as "suspected human carcinogen" (TLV-A2)

OTHER HAZARDS:
The mechanical action of fibers may cause slight skin irritation and mild irritation of the eyes and nasal passages. Ingestion may cause gastrointestinal irritation, vomiting, and diarrhea.

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.

MAN-MADE MINERAL FIBERS (MMMF - GLASSWOOL, SLAGWOOL, LOOSE WOOL, AND ROCK WOOL):
INHALATION HAZARDS:
Exposure to respirable fibers by inhalation may cause temporary upper respiratory irritation, with discomfort and cough. Prolonged exposure may cause chronic lung disease. IARC classifies man-made mineral fibers (diameter <1um) as "possible carcinogenic to humans" (Group 2B). ACGIH classifies synthetic vitreous fibers (rock wool fibers) as "animal carcinogen" (TLV-A3).

OTHER HAZARDS:
The mechanical action of fibers may cause skin irritation and irritation of the eyes and nasal passages. Ingestion may cause gastrointestinal irritation, vomiting, and diarrhea.

SECTION 3: HAZARDS IDENTIFICATION (cont.)

CARBON BLACK:
INHALATION HAZARDS:
Should be treated as a nuisance dust. Exposure may cause temporary upper respiratory tract discomfort. IARC classifies carbon black as "possible carcinogenic to humans" (Group 2B)

ACRYLONITRILE:
INHALATION HAZARDS:
Exposure to acryonitrile 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 Acryonitrile as "possible carcinogenic to humans" (Group 2B)

OTHER HAZARDS:
Acrylonitrile is a human systematic irritant and may be poisonous by skin absorption and ingestion. Target organs include the liver, central nervous system, brain, kidneys, and cardiovascular system.

STEEL FIBER:
An odorless gray metal containing iron, manganese, silicon, and copper.

INHALATION HAZARDS:
Acute: Metal fumes fever with symptoms of chills, fever, cough, muscle aches, and difficulty in breathing from manganese; silicon can cause respiratory tract irritation; copper can cause irritation of eyes, nose, throat, and lungs with possibility of metal fume fever, chills, nausea, fever, dry throat, cough, metallic taste.
Chronic: repeated exposure to iron over time may cause lung changes, benign pneumoconiosis; cumulative central nervous system and lung damage may occur with manganese as well as insomnia, malaise and asthenia; may cause irritation of lungs and discoloration of the skin and hair.

SILICA DUST:
INHALATION HAZARDS:
Acute: Exposure to silica dust may cause paroxysmal coughing, wheezing, dyspnea and upper respiratory tract irritations.
Chronic: Prolonged exposure to silica dust may cause silicosis. Quartz has been classified by IARC as "carcinogenic to humans" (Group 1)

OTHER HAZARDS:
Eye contact may cause temporary discomfort and irritation.

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.

BARIUM SULFATE:

OTHER HAZARDS:
No adverse effects have been reported from ingestion Eye contact may cause temporary discomfort and irritation.

HYDRATED LIME:
INHALATION HAZARDS:
Dust may cause irritation of nasal and respiratory passages.

OTHER HAZARDS:
Lime is a strong eye irritation, and may cause corrosive damage and blindness.

Exposure to dust may cause severe skin irritation, drying and burning, particularly with damaged skin. Swallowing of excessive amounts may damage mucous membranes of digestive system. There are no known chronic hazards.

WHITING:
A white, finely pulverized powder with no odor, containing 85-88% calcium carbonate; 10-14% magnesium carbonate; and <1% crystalline silica.

INHALATION HAZARDS:
Limestone dust is considered a nuisance dust. Prolonged exposure may cause irritation to throat and lungs. Silica content is not considered high enough to cause silicosis unless exposures are extremely high and prolonged.

OTHER HAZARDS:
May cause irritation to eyes and skin.

SECTION 4: FIRST AID PROCEDURES

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.

SECTION 5: FIREFIGHTING MEASURES

AUTO-IGNITION TEMPERATURE:
This product in inherently flame resistant but may ignite at temperatures exceeding 1112F (600C) in an oxygen enriched atmosphere.

FLAMMABLE LIMITS IN AIR:
LEL: Not Available   UEL: Not Available

EXTINGUISHING MEDIA:
Use media suitable for surrounding fire.

SPECIAL FIREFIGHTING PROCEDURES:
None

UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

SECTION 6: ENVIRONMENTAL RELEASE MEASURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
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.

SECTION 7: HANDLING AND STORAGE

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.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTETECTION

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

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION(cont.)

PERSONAL PROTECTIVE EQUIPMENT:
Suitable respiratory protection should be worn is 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.

SECTION 9: PHYSICAL AND CHEMICAL

BOILING POINT: Not Available VAPOR PRESSURE: Not Available
VAPOR DESTINY: Not Available SOLUBILITY IN WATER: Insoluble
MELTING POINT: None EVAPORATION RATE: Not Available
SPECIFIC GRAVITY: 1.69 - 1.83 g/cc

APPEARANCE AND ODOR:
Solid black with cashew odor.

SECTION 10: STABILITY AND REACTIVITY

STABILITY:
Stable at normal temperatures and storage conditions.

HAZARDOUS POLYMERIZATION:
Will not occur

INCOMPATIBILITY (MATERIALS TO AVOID:
None

HAZARDOUS DECOMPOSITION PRODUCTS:
None

SECTION 11: TOXICOLOGICAL INFORMATION

No Information Available

SECTION 12: ECOLOGICAL INFORMATION

No Information Available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
Federal and state law regulates disposal of solid waste. Waste should be placed in airtight containers, and disposed of properly. Contact local regulatory agency for guidance

SECTION 14: TRANSPORT INFORMATION

No Information Available

SECTION 15: REGULATORY INFORMATION

No Information Available

SECTION 16: OTHER INFORMATION

DISCLAIMER OF LIABILITY:
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