

1. Product and Company Identification

Material name NAO Aftermarket Copper containing
Version # 01
Issue date 04-September-2013
Revision date -
Supersedes date -
CAS # Mixture
MSDS Number 310
Product use Friction Material, Brake Lining.
Manufacturer/Supplier Federal-Mogul World Headquarters
 26555 Northwestern Highway
 Southfield, Michigan 48033
 USA
 Contact Person: MSDS Request (voicemail) 1-248-354-9844

Emergency 24hr EP (INFOTRAC): 1-800-535-5053
 International: (001) 352-323-3500
 Non-emergency Telephone: 1-248-354-9844

2. Hazards Identification

Physical state Solid.
Appearance Solid (article).
Emergency overview Low hazard for recommended handling by trained personnel.
 Dust can be created by the machining of finished products.
OSHA regulatory status Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.
Potential health effects
Routes of exposure Not relevant, due to the form of the product in its manufactured and shipped state.
Eyes Dust may irritate the eyes.
Skin The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. Dust may irritate skin.
Inhalation The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. Dust may irritate the respiratory system. Inhalation of powder or fumes may cause metal fume fever. Inhalation may lead to deposition in lung and in sufficient quantities produce baritosis.
Ingestion The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. May cause discomfort if swallowed.
Target organs Skin. Lung. Kidneys. Liver.
Chronic effects The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. Possible cancer hazard - may cause cancer based on animal data. May cause lung damage. May cause damage to the liver and kidneys.
Signs and symptoms Exposed individuals may experience eye tearing, redness, and discomfort.
Potential environmental effects Not relevant, due to the form of the product in its manufactured and shipped state.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Aluminum oxide	1344-28-1	> 1
Barium sulphate	7727-43-7	> 1
Calcined petroleum coke	64743-05-1	> 1
Carbon	7440-44-0	> 1

Components	CAS #	Percent
Coal dust	-	> 1
Copper	7440-50-8	> 1
Glass fiber	65997-17-3	> 1
Graphite	7782-42-5	> 1
Kyanite	1302-76-7	> 1
Limestone	1317-65-3	> 1
Magnesium oxide	1309-48-4	> 1
Mica	12001-26-2	> 1
Talc	14807-96-6	> 1
Carbon black	1333-86-4	> 0.1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. This product contains a variety of ingredients all of which have become part of a bound system both physically and chemically and do not necessarily exhibit the properties of the individual components.

4. First Aid Measures

First aid procedures

- Eye contact** Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention promptly if symptoms persist or occur after washing.
- Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
- Inhalation** Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and take along these instructions.
- Ingestion** If swallowed, rinse mouth with water (only if the person is conscious). Get medical attention if any discomfort continues.

Notes to physician Treat symptomatically.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties This product is not flammable.

Extinguishing media

- Suitable extinguishing media** Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media** None.

Protection of firefighters

- Specific hazards arising from the chemical** By heating and fire, toxic vapors/gases may be formed.
- Protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials.

Hazardous combustion products Carbon dioxide. Carbon monoxide. Metallic fumes. Sulfur oxides.

6. Accidental Release Measures

Personal precautions	Use explosion-proof electrical equipment if airborne dust levels are high. Avoid dust formation. Avoid inhalation of dust and contact with skin and eyes. Wear necessary protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Collect and dispose of spillage as indicated in Section 13 of the MSDS.
Methods for containment	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Methods for cleaning up	Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Do not vacuum clean unless vacuum cleaners are equipped with HEPA filter. For waste disposal, see Section 13 of the MSDS.

7. Handling and Storage

Handling	Provide adequate ventilation. Avoid dust formation. Avoid inhalation of dust and contact with skin and eyes. Use work methods which minimize dust production. See Section 8 of the MSDS for Personal Protective Equipment. Observe good industrial hygiene practices.
Storage	Store in tightly closed original container. Avoid conditions which create dust. Protect against direct sunlight. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Calcined petroleum coke (CAS 64743-05-1)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Barium sulphate (CAS 7727-43-7)	TWA	10 mg/m ³	
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
Coal dust (CAS -)	TWA	0.4 mg/m ³	Respirable fraction.
Copper (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
		0.2 mg/m ³	Fume.
Glass fiber (CAS 65997-17-3)	TWA	1 fibers/cm ³	Fiber.
		5 mg/m ³	Inhalable fraction.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m ³	Respirable fraction.
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.
Mica (CAS 12001-26-2)	TWA	3 mg/m ³	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable fraction.

U.S. - OSHA

Components	Type	Value	Form
Calcined petroleum coke (CAS 64743-05-1)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Barium sulphate (CAS 7727-43-7)	PEL	5 mg/m ³	Respirable fraction.
Carbon (CAS 7440-44-0)	PEL	15 mg/m ³	Total dust.
		5 mg/m ³	Respirable fraction.
Carbon black (CAS 1333-86-4)	PEL	15 mg/m ³	Total dust.
		3.5 mg/m ³	
Copper (CAS 7440-50-8)	PEL	1 mg/m ³	Dust and mist.
		0.1 mg/m ³	Fume.
Graphite (CAS 7782-42-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Limestone (CAS 1317-65-3)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Magnesium oxide (CAS 1309-48-4)	PEL	15 mg/m ³	Total particulate.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	15 millions of particle	
Coal dust (CAS -)	TWA	0.1 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	15 millions of particle	
Mica (CAS 12001-26-2)	TWA	20 millions of particle	
Talc (CAS 14807-96-6)	TWA	0.3 mg/m ³	Total dust.
		0.1 mg/m ³	Respirable.
		20 millions of particle	
		2.4 millions of particle	Respirable.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m ³	
Barium sulphate (CAS 7727-43-7)	TWA	10 mg/m ³	
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable.
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m ³	
Coal dust (CAS -)	TWA	2 mg/m ³	Respirable particles.
Copper (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
		0.2 mg/m ³	Fume.
Glass fiber (CAS 65997-17-3)	TWA	0.2 fibers/cm ³	Fiber.
		5 mg/m ³	Total particulate.
Graphite (CAS 7782-42-5)	TWA	5 mg/m ³	Fiber, total
		2 mg/m ³	Respirable.
Limestone (CAS 1317-65-3)	TWA	10 mg/m ³	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m ³	Fume.
Mica (CAS 12001-26-2)	TWA	3 mg/m ³	Respirable.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable particles.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Barium sulphate (CAS 7727-43-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable.
Carbon black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable
Coal dust (CAS -)	TWA	0.4 mg/m3	Respirable.
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0.2 mg/m3	Fume.
Glass fiber (CAS 65997-17-3)	TWA	0.2 fibers/cm3	Fiber.
		5 mg/m3	Inhalable fibers.
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	Respirable.
Limestone (CAS 1317-65-3)	STEL	20 mg/m3	Total dust.
	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Magnesium oxide (CAS 1309-48-4)	STEL	10 mg/m3	Respirable dust and/or fume.
	TWA	3 mg/m3	Respirable dust and/or fume.
		10 mg/m3	Inhalable fume.
Mica (CAS 12001-26-2)	TWA	3 mg/m3	Respirable.
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Barium sulphate (CAS 7727-43-7)	TWA	10 mg/m3	
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m3	
Coal dust (CAS -)	TWA	0.4 mg/m3	Respirable fraction.
Copper (CAS 7440-50-8)	TWA	0.2 mg/m3	Fume.
Glass fiber (CAS 65997-17-3)	TWA	1 fibers/ml	Respirable fibers.
		5 mg/m3	Inhalable
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	Respirable fraction.
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.
Mica (CAS 12001-26-2)	TWA	3 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 fibers/ml	
		2 mg/m3	Respirable particles.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	Total dust.
Barium sulphate (CAS 7727-43-7)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable dust.
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m3	
Coal dust (CAS -)	TWA	0.1 mg/m3	Respirable dust.
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Glass fiber (CAS 65997-17-3)	TWA	0.2 mg/m3	Fume.
		1 fibres/cm3	Fiber.
		10 mg/m3	Total dust.
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable dust.
Limestone (CAS 1317-65-3)	TWA	10 mg/m3	Total dust.
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Fume.
Mica (CAS 12001-26-2)	TWA	3 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	TWA	3 mg/m3	Respirable dust.

Mexico. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Barium sulphate (CAS 7727-43-7)	TWA	0.5 mg/m3	
Carbon (CAS 7440-44-0)	TWA	10 mg/m3	
Carbon black (CAS 1333-86-4)	STEL	7 mg/m3	
Coal dust (CAS -)	TWA	3.5 mg/m3	
	TWA	2 mg/m3	Dust.
	STEL	2 mg/m3	Fume.
Copper (CAS 7440-50-8)	TWA	2 mg/m3	Dust and mist.
		1 mg/m3	Dust and mist.
		0.2 mg/m3	Fume.
Glass fiber (CAS 65997-17-3)	TWA	10 mg/m3	Dust.
Graphite (CAS 7782-42-5)	TWA	10 mg/m3	
Limestone (CAS 1317-65-3)	STEL	20 mg/m3	
	TWA	10 mg/m3	
	TWA	10 mg/m3	Fume.
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	
Mica (CAS 12001-26-2)	TWA	3 mg/m3	
Talc (CAS 14807-96-6)	TWA	2 fibers/cm3	

Engineering controls

Use explosion-proof electrical equipment if airborne dust levels are high. Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust.

Personal protective equipment

Eye / face protection

Wear approved safety goggles.

Skin protection

Wear protective gloves (i.e. latex, nitrile). Wear suitable protective clothing. Suitable gloves can be recommended by the glove supplier.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. During dust-raising work: In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 1910.134. Respirator type: Any powered, air-purifying respirator with a high-efficiency particulate filter.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Solid (article).
Physical state	Solid.
Form	Solid (Disc pad).
Color	Brownish- gray.
Odor	None.
Odor threshold	Not applicable.

pH	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Boiling point	Not applicable.
Melting point/Freezing point	Not applicable.
Solubility (water)	Not available.
Specific gravity	2.2 - 3.7 (20 °C)
Flash point	Not applicable.
Flammability limits in air, upper, % by volume	Not applicable.
Flammability limits in air, lower, % by volume	Not applicable.
Auto-ignition temperature	Not applicable.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	None known.
Incompatible materials	None.
Hazardous decomposition products	Carbon dioxide. Carbon monoxide. Metallic fumes. Sulfur oxides.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Carbon (CAS 7440-44-0)		
Acute		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
Sensitization	Not a skin sensitizer.	
Acute effects	The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. Dust may cause eye, skin and respiratory tract irritation. Inhalation may lead to deposition in lung and in sufficient quantities produce baritosis. Inhalation of powder or fumes may cause metal fume fever.	
Chronic effects	The ingredients may be released as general dust from the product by operations such as overheating, burning, machining, abrading, or riveting. Possible cancer hazard - may cause cancer based on animal data. May cause lung damage. May cause damage to the liver and kidneys.	
Carcinogenicity	Not classified.	
ACGIH Carcinogens		
Aluminum oxide (CAS 1344-28-1)		A4 Not classifiable as a human carcinogen.
Carbon black (CAS 1333-86-4)		A3 Confirmed animal carcinogen with unknown relevance to humans.
Coal dust (CAS -)		A4 Not classifiable as a human carcinogen.
Glass fiber (CAS 65997-17-3)		A4 Not classifiable as a human carcinogen.
Kyanite (CAS 1302-76-7)		A4 Not classifiable as a human carcinogen.
Magnesium oxide (CAS 1309-48-4)		A4 Not classifiable as a human carcinogen.
Talc (CAS 14807-96-6)		A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity		
Carbon black (CAS 1333-86-4)		2B Possibly carcinogenic to humans.
Coal dust (CAS -)		3 Not classifiable as to carcinogenicity to humans.
Talc (CAS 14807-96-6)		3 Not classifiable as to carcinogenicity to humans.
US NTP Report on Carcinogens: Anticipated carcinogen		
Glass fiber (CAS 65997-17-3)		Reasonably Anticipated to be a Human Carcinogen.

Mutagenicity	No data available.
Reproductive effects	No data available.
Symptoms and target organs	Exposed individuals may experience eye tearing, redness, and discomfort.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
Barium sulphate (CAS 7727-43-7)			
Aquatic			
Crustacea	EC50	Tubificid worm (Tubifex tubifex)	28.61 - 38.03 mg/l, 48 hours
Copper (CAS 7440-50-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.0318 mg/l, 48 hours
	LC50	Water flea (Daphnia magna)	0.04 - 0.05 mg/l, 48 hours
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.02 mg/l, 96 hours
		Oncorhynchus mykiss	200 µg/l, 96 hours

Ecotoxicity	Not relevant, due to the form of the product in its manufactured and shipped state.
Persistence and degradability	The product contains inorganic compounds which are not biodegradable.
Bioaccumulation / Accumulation	No data available.
Mobility in environmental media	The product is insoluble in water and will sediment in water systems.

13. Disposal Considerations

Disposal instructions	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Waste from residues / unused products	Dispose of waste and residues in accordance with local authority requirements.
Contaminated packaging	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.
-------------------------------	--

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Aluminum oxide (CAS 1344-28-1)	1.0 %
Copper (CAS 7440-50-8)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Copper (CAS 7440-50-8)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Barium sulphate: 1000

Copper: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A) No

SARA 311/312 Hazardous chemical No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

Canadian regulations This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS status Non-controlled

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Barium sulphate (CAS 7727-43-7)	Listed.
Carbon (CAS 7440-44-0)	Listed.
Carbon black (CAS 1333-86-4)	Listed.
Coal dust (CAS -)	Listed.
Copper (CAS 7440-50-8)	Listed.
Glass fiber (CAS 65997-17-3)	Listed.
Graphite (CAS 7782-42-5)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.
Mica (CAS 12001-26-2)	Listed.
Talc (CAS 14807-96-6)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Carbon black (CAS 1333-86-4)	Listed.
Glass fiber (CAS 65997-17-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Carbon black (CAS 1333-86-4)	Listed: February 21, 2003 Carcinogenic.
Glass fiber (CAS 65997-17-3)	Listed: July 1, 1990 Carcinogenic.

US - New Jersey RTK - Substances: Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Barium sulphate (CAS 7727-43-7)	Listed.
Carbon (CAS 7440-44-0)	Listed.
Carbon black (CAS 1333-86-4)	Listed.
Coal dust (CAS -)	Listed.
Copper (CAS 7440-50-8)	Listed.
Glass fiber (CAS 65997-17-3)	Listed.
Graphite (CAS 7782-42-5)	Listed.
Limestone (CAS 1317-65-3)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.

Mica (CAS 12001-26-2) Listed.
Talc (CAS 14807-96-6) Listed.

US - Pennsylvania RTK - Hazardous Substances: All compounds of this substance are considered environmental hazards

Copper (CAS 7440-50-8) LISTED

US. Massachusetts RTK - Substance List

Aluminum oxide (CAS 1344-28-1) Listed.
Barium sulphate (CAS 7727-43-7) Listed.
Carbon black (CAS 1333-86-4) Listed.
Copper (CAS 7440-50-8) Listed.
Glass fiber (CAS 65997-17-3) Listed.
Graphite (CAS 7782-42-5) Listed.
Limestone (CAS 1317-65-3) Listed.
Magnesium oxide (CAS 1309-48-4) Listed.
Mica (CAS 12001-26-2) Listed.
Talc (CAS 14807-96-6) Listed.

US. New Jersey Worker and Community Right-to-Know Act

Aluminum oxide (CAS 1344-28-1) 500 lbs
Copper (CAS 7440-50-8) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

Aluminum oxide (CAS 1344-28-1) Listed.
Barium sulphate (CAS 7727-43-7) Listed.
Carbon black (CAS 1333-86-4) Listed.
Coal dust (CAS -) Listed.
Copper (CAS 7440-50-8) Listed.
Glass fiber (CAS 65997-17-3) Listed.
Graphite (CAS 7782-42-5) Listed.
Limestone (CAS 1317-65-3) Listed.
Magnesium oxide (CAS 1309-48-4) Listed.
Mica (CAS 12001-26-2) Listed.
Talc (CAS 14807-96-6) Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.
Dash "-" next to each of the entries for the HMIS and NFPA ratings indicates Not Applicable.

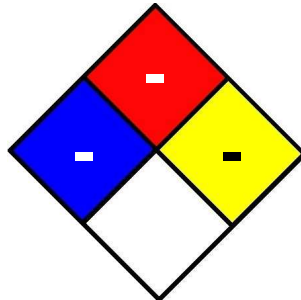
Other information

931-83, 931-162, 1027-138, 1048-109, 1048-111, 1048-9, 1157-14, 1175-8, 3027-91, 3027-127, 3153-1, 3170-24, Abex697, ABEX6014, ABEX6024, ABEX6037, ABEX6047, ABEX6056, ABEX6085, ABEX6101, ABEX6149, ABEX6184, ABEX685, FA P23-1, FC23, FERODO OPTIPRO 820, FERODO OPTIPRO 830, FERODO OPTIPRO 835, FERODO OPTIPRO 837, HD 3000, HD 5000, HD 7100, HD 8100, MTP23, OEC, OEH23, OES20, OES23, OES 23PS, OFS23, OTR Black, OTR Bronze, OTR Green, OTR Red, PP23, PS20, PS23, SBA20, SBA23, SBA23S, SBP23, SC, Standard, VL20, VL23

HMIS® ratings

Health: -
Flammability: -
Physical hazard: -

NFPA Ratings



Disclaimer

The information provided on this data sheet was abstracted from supplier material safety data sheets and standard references in occupational health and toxicology. Federal-Mogul makes no representation or warranty with respect to the information obtained from such references. The information is however, as of the date provided, true and accurate to the best of Federal-Mogul's knowledge, and should be used to make an independent determination of the methods to safeguard workers and the environment.