



SAFETY DATA SHEET

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product name: FM 2600 Sintered Metal Powder Product **Product No.:** FM 2600

Supplier:

Federal-Mogul Corporation, Manchester International
Office Centre
Styal Road, Manchester M22 5TN
England
Tel: +44 (0) 161 955 5200
Fax: +44 (0) 161 955 5204

Emergency telephone:

24hr EP (INFOTRAC): 1-800-535-5053
International: (001) 352-323-3500

Intended use: Consumer auto part

Contact person: MSDS Request (voicemail):
+1-248-354-9844

2 COMPOSITION/INFORMATION ON INGREDIENTS

General information: The product is a mixture. The ingredients may be released from the product by operations such as overheating, burning, machining, abrading, or riveting.

Chemical name	EC No.	CAS-No.	Concentration *	Classification	Notes
Iron	231-096-4	7439-89-6	55 - 75%	-	-
Chromium	231-157-5	7440-47-3	18 - 23%	-	-
Molybdenum	231-107-2	7439-98-7	4.5 - 6.5%	-	-
Nickel	231-111-4	7440-02-0	2 - 5%	Carc. Cat. 3;R40, Xi;R43	-
Tungsten	231-143-9	7440-33-7	1.5 - 2.5%	Xi;R36/38	-
Sulphur	231-722-6	7704-34-9	1 - 2%	F;R11	-
Vanadium	231-171-1	7440-62-2	0.5 - 2%	-	-
Silicon	231-130-8	7440-21-3	0.5 - 2%	-	-
Carbon	231-153-3	7440-44-0	0.8 - 1.4%	-	-

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

The full text for all R-Phrases are displayed in section 16.

3 HAZARDS IDENTIFICATION

The product has been classified according to the legislation in force.

Classification: | Carc. Cat. 3; R40 | R43 |

The full text for all R-Phrases are displayed in section 16.

Potential health effects

Inhalation: Under normal conditions of intended use, this material does not pose a risk to health.

Eye contact: Under normal conditions of intended use, this material does not pose a risk to health. The ingredients may be released from the product by operations such as overheating, burning, machining, abrading, or riveting. Dust in the eyes will cause irritation.

Skin contact: The ingredients may be released from the product by operations such as overheating, burning, machining, abrading, or riveting. May cause sensitisation by skin contact.

Ingestion: May cause discomfort if swallowed.

Other health effects: Limited evidence of a carcinogenic effect.

Potential physical / chemical effects: The product is non-combustible.

Environment: The product is not expected to be hazardous to the environment.

4	FIRST-AID MEASURES
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Inhalation: Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and take along these instructions.

Eye contact: Flush thoroughly with water for at least 15 minutes. Dust in the eyes: Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention if irritation persists after washing.

Skin contact: Wash contact areas with soap and water. Get medical attention promptly if symptoms occur after washing.

Ingestion: If swallowed, rinse mouth with water (only if the person is conscious).

5	FIRE FIGHTING MEASURES
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Extinguishing media: This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Inappropriate extinguishing media: None.

Special fire fighting procedures: Use standard firefighting procedures and consider the hazards of other involved materials.

Unusual fire & explosion hazards: The product is non-combustible. If heated, toxic vapours may be formed.

Hazardous combustion products: Carbon Dioxide, Carbon Monoxide, Sulfur Oxides

Protective measures: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

6	ACCIDENTAL RELEASE MEASURES
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Personal precautions: Avoid dust formation. Avoid inhalation of dust and contact with skin and eyes. Wear necessary protective equipment. See Section 8 for personal protective equipment.

Spill cleanup methods: Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

Environmental precautions: Avoid discharge into water courses or onto the ground. Collect and dispose of spillage as indicated in section 13.

Notification procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

7 HANDLING AND STORAGE

Handling: People working with this product should get instructions before use. This product should only be used in an industrial workplace. Avoid dust formation. Provide adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Use work methods which minimise dust production. Wear suitable protective clothing and gloves. Observe good industrial hygiene practices.

Storage: Store in tightly closed original container. Avoid conditions which create dust. Protect against direct sunlight.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:

Chemical name	Source	Type	Workplace exposure limits	Notes
Carbon (Inhalable dust.)	EH40/2005	TWA	10 mg/m ³	General dust
Carbon (Respirable dust.)	EH40/2005	TWA	4 mg/m ³	General dust
Chromium	EH40/2005	TWA	0.5 mg/m ³	
Molybdenum	EH40/2005	STEL	20 mg/m ³	as Mo
Molybdenum	EH40/2005	TWA	10 mg/m ³	as Mo
Nickel	EH40/2005	TWA	0.5 mg/m ³	Skin, as Ni
Silicon (Inhalable dust.)	EH40/2005	TWA	10 mg/m ³	
Silicon (Respirable dust.)	EH40/2005	TWA	4 mg/m ³	
Tungsten	EH40/2005	STEL	10 mg/m ³	as W
Tungsten	EH40/2005	TWA	5 mg/m ³	as W

Engineering controls: Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Respiratory protection: No protection is ordinarily required under normal conditions of use and with adequate ventilation. During dust-raising work: Use respiratory equipment with particle filter, type P1. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye protection: If contact is likely, safety glasses with side shields are recommended.

Hand protection: Chemical resistant gloves. Gloves are recommended for prolonged use. Suitable gloves can be recommended by the glove supplier.

Skin protection: Apron and long sleeves are recommended. If prolonged or repeated contact is likely, chemical resistant clothing is recommended. Wear suitable protective clothing.

Hygiene measures: 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.

Environmental exposure controls: Environmental manager must be informed of all major spillages.

9**PHYSICAL AND CHEMICAL PROPERTIES**

Physical state: Solid

Colour: Metallic gray

Odour: None

Odour threshold: Not applicable

pH: No data available

Melting point: >1100°C (2012°F)

Freezing point: Not applicable

Boiling Point: >1200°C (2192°F)

Relative density: 6.5 (20°C)

Bulk density: 6.5 mg/m³

Vapour pressure: Not applicable

Vapour density (air=1): No data available.

Evaporation rate: Not applicable

Solubility in water: Insoluble

Solubility (other): Not applicable

Partition coefficient (n-octanol/water): No data available.

Flash point: Not applicable

Autoignition temperature: Not applicable

Flammability limit - lower(%): Not applicable

Flammability limit - upper (%): Not applicable

10**STABILITY AND REACTIVITY**

Stability: Material is stable under normal conditions.

Conditions to avoid: Heat Strong oxidising agents.

Incompatible materials: Strong Acid Contact

Hazardous decomposition products: None.

Possibility of hazardous reactions: Will not occur.

11**Toxicological information**

Specified substance(s)

Acute toxicity:

Chemical name	Test results
Sulphur	Dermal LD50 (Rat): > 2020 mg/kg
Sulphur	Oral LD50 (Rat): > 5050 mg/kg

Inhalation: Under normal conditions of intended use, this material does not pose a risk to health.

Eye contact: Dust may irritate the eyes. Exposed may experience eye tearing, redness, and discomfort.

Skin contact: Mildly irritating to skin with prolonged exposure.

Ingestion: May cause discomfort if swallowed.

Sensitisation: May cause sensitisation by skin contact.

Listed carcinogens:

Chemical name	IARC	NTP	OSHA	ACGIH
Nickel	2B	Listed	Not listed	A5
Chromium	3	Not listed	Not listed	A4
Molybdenum	Not listed	Not listed	Not listed	A3

IARC: 1 = Carcinogenic to Humans; 2A = Probably Carcinogenic to Humans; 2B = Possibly Carcinogenic to Humans; 3 = Not classifiable as to carcinogenicity to humans; 4 = Probably not carcinogenic to humans; Not listed = Not evaluated by IARC.

ACGIH: A1 = Confirmed Human Carcinogen; A2 = Suspected Human Carcinogen; A3 = Confirmed Animal Carcinogen; A4 = Not classifiable as a human carcinogen; A5 = Not suspected to be a human carcinogen; Not listed = Not evaluated by ACGIH.

Mutagenesis: No data available.

Reproductive toxicity: No data available.

Other effects: Limited evidence of a carcinogenic effect.

12

ECOLOGICAL INFORMATION

Ecotoxicity: The product is not expected to be hazardous to the environment.

Mobility: The product is insoluble in water and will sediment in water systems.

Persistence and degradability: The product contains inorganic compounds which are not biodegradable.

Bioaccumulation potential: No data available.

13

DISPOSAL CONSIDERATIONS

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

European waste codes

Unused product: 16 03 03*

Container: 15 01 02

14

TRANSPORT INFORMATION

ADR/RID Not regulated.

IMDG Not regulated.

IATA Not regulated.

15**REGULATORY INFORMATION**

Contains: Nickel



Harmful.

R40; Limited evidence of a carcinogenic effect. R43; May cause sensitisation by skin contact.

S24; Avoid contact with skin. S36/37; Wear suitable protective clothing and gloves. S60; This material and its container must be disposed of as hazardous waste.

Chemical name	CAS-No.	List citations
Nickel	7440-02-0	1

Regulatory lists searched: 1 = Carcinogen

16**OTHER INFORMATION**

Wording of the R-phrases in sections 2 and 3: R11; Highly flammable. R36; Irritating to eyes. R38; Irritating to skin. R40; Limited evidence of a carcinogenic effect. R43; May cause sensitisation by skin contact.

Inventory status: Not all substances are listed on EINECS.

Issued by: Federal Mogul Corporation

Issue date: 19-Jan-2007

Supersedes date: 19-Jan-2007

SDS No.: 1004554

Disclaimer: The information provided on this data sheet was abstracted from supplier 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.