

1. Product and Company Identification

Material name F-100
Version # 00
Issue date 03-20-2013
Revision date 03-20-2013
Supersedes date -
Chemical name Graphite
Chemical description Fiber
CAS # Mixture
Product code 902-0022
Product use Industrial Leak Sealant
Manufacturer information
Manufacturer/Supplier Team Industrial Services, Inc.
 200 Hermann Drive, Alvin, Texas 77511
Emergency Contact CHEMTREC - 24 HOURS
 USA: CHEMTREC: 800-424-9300
 International: 703-527-3887 (Collect)

2. Hazards Identification

Physical state Solid.
Appearance Black fibrous fiber.
Emergency overview Dust may irritate the respiratory tract, skin and eyes.
OSHA regulatory status This product is hazardous according to OSHA 29 CFR 1910.1200.
Potential health effects
Routes of exposure Eye contact. Skin contact.
Eyes Dust in the eyes will cause irritation.
Skin Prolonged or repeated skin contact may cause irritation.
Inhalation May cause respiratory tract irritation. Dust may irritate throat and respiratory system and cause coughing.
Ingestion May cause discomfort if swallowed. Ingestion of dusts generated during working operations may cause nausea and vomiting.
Chronic effects Lungs may be affected by repeated or prolonged exposure to dust, resulting in graphite pneumoconiosis.
Signs and symptoms Irritation of nose and throat. Irritation of eyes and mucous membranes. Coughing. Shortness of breath.
Potential environmental effects The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Aluminium hydroxide	21645-51-2	25-50
Aluminum oxide	1344-28-1	25-50
Graphite	7782-42-5	25-50
Carbon fiber	7440-44-0	<5

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

4. First Aid Measures

First aid procedures

Eye contact	Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.
Skin contact	Wash area with soap and water. Get medical attention if irritation develops or persists.
Inhalation	Remove victim to fresh air. Get medical attention if symptoms persist.
Ingestion	Rinse mouth and drink plenty of water. Only induce vomiting at the instruction of medical personnel. Get medical attention if any discomfort occurs.

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 Dust may form explosive mixture with air.

Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media No restrictions known.

Protection of firefighters

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. 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. Cool material exposed to heat with water spray and remove it if no risk is involved.

Hazardous combustion products None known.

6. Accidental Release Measures

Personal precautions Avoid dust formation. Avoid inhalation of dust. Avoid prolonged and repeated contact. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

Methods for containment Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up Collect dust using a vacuum cleaner equipped with HEPA filter.

Other information Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling Avoid inhalation of dust. Use work methods which minimize dust production. Provide adequate ventilation. Avoid prolonged and repeated contact. Observe good industrial hygiene practices.

Storage Store in closed original container in a dry place. Keep away from open flames.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m ³	Respirable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Carbon fiber (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.

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.
Carbon fiber (CAS 7440-44-0)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Graphite (CAS 7782-42-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

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

Components	Type	Value
Carbon fiber (CAS 7440-44-0)	TWA	15 mppcf
Graphite (CAS 7782-42-5)	TWA	15 mppcf

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	
Carbon fiber (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable.
Graphite (CAS 7782-42-5)	TWA	2 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
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m ³	Respirable.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable.
Carbon fiber (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable.

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

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m ³	Respirable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Carbon fiber (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.

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/m ³	Total dust.
Carbon fiber (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable dust.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable dust.

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m ³
Carbon fiber (CAS 7440-44-0)	TWA	10 mg/m ³
Graphite (CAS 7782-42-5)	TWA	10 mg/m ³

Engineering controls	Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust.
Personal protective equipment	
Eye / face protection	Risk of contact: Wear approved safety glasses or goggles.
Skin protection	Where skin contact is likely, wear chemical impervious gloves. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
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	Black fibrous fiber.
Physical state	Solid.
Form	Solid.
Color	Black. Odor Odorless.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	Not available.
Solubility (water)	Slightly soluble in water.
Specific gravity	Not available.
Flash point	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Partition coefficient (n-octanol/water)	No data available.
Other data	
Flammability (solid, gas)	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	None known.
Incompatible materials	Strong reducing agents. Oxidizing agents.
Hazardous decomposition products	Carbon dioxide. Carbon oxides.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Aluminium hydroxide (CAS 21645-51-2)		
Acute		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Carbon fiber (CAS 7440-44-0)		
Acute		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
Graphite (CAS 7782-42-5)		
Acute		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
<i>Other</i>		
LD50	Mouse	440 mg/kg
Sensitization	Not a skin sensitizer.	
Acute effects	May cause discomfort if swallowed.	
Local effects	May cause eye irritation on direct contact. Prolonged or repeated skin contact may cause irritation.	
Chronic effects	Lungs may be affected by repeated or prolonged exposure to dust, resulting in graphite pneumoconiosis.	

ACGIH Carcinogens

Aluminium hydroxide (CAS 21645-51-2)

A4 Not classifiable as a human carcinogen.

Aluminum oxide (CAS 1344-28-1)

A4 Not classifiable as a human carcinogen.

Symptoms and target organs Direct contact with eyes may cause temporary irritation.

12. Ecological Information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	No data available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient	No data available.
Mobility in environmental media	No data available.

13. Disposal Considerations

Waste codes	Not regulated.
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. Recover and reclaim or recycle, if practical.
Contaminated packaging	Dispose product packaging in accordance with local authority requirements taking into account characteristics of the packaging material.

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** This product is hazardous according to 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 %

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

Aluminum oxide (CAS 1344-28-1) Listed.

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

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)	No
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Section 311/312 (40 CFR 370)	Yes
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Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
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Canadian regulations	This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
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WHMIS status	Controlled
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Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer.**US - California Hazardous Substances (Director's): Listed substance**

Aluminum oxide (CAS 1344-28-1) Listed.

Carbon fiber (CAS 7440-44-0) Listed.

Graphite (CAS 7782-42-5) Listed.

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

Not listed.

US - New Jersey RTK - Substances: Listed substance

Aluminum oxide (CAS 1344-28-1) Listed.

Carbon fiber (CAS 7440-44-0) Listed.

Graphite (CAS 7782-42-5) Listed.

US. Massachusetts RTK - Substance List

Aluminum oxide (CAS 1344-28-1) Listed.

Graphite (CAS 7782-42-5) Listed.

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

Aluminum oxide (CAS 1344-28-1) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

Aluminum oxide (CAS 1344-28-1) Listed.

Graphite (CAS 7782-42-5) Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.
I - Safety Glasses, Gloves, Dust, Vapor Respirator

HMIS® ratings

Health: 1*
Flammability: 0
Physical hazard: 0
Personal protection: I

NFPA ratings

Health: 1
Flammability: 0
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.