



GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : GRFG Mortar
CAS No : Mixture
Product code : 1006
Other means of identification : Basic Speciality

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Refractory

1.3. Details of the supplier of the safety data sheet

Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA 15205 - United States
412-494-4491
www.rescoproducts.com

1.4. Emergency telephone number

Emergency number : EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2B H320
Carc. 1A H350

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Hazard statements (GHS-US) :

Precautionary statements (GHS-US) :

Danger
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H350 - May cause cancer (Inhalation)
P280 - Wear Dust respirator, eye protection, protective gloves
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Magnesium Oxide	(CAS No) 1309-48-4	20 - 50	Not classified
chromium(III) oxide	(CAS No) 1308-38-9	10 - 20	Not classified
sodium silicate, alkaline	(CAS No) 1344-09-8	5 - 10	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
iron(III) oxide	(CAS No) 1309-37-1	5 - 10	Not classified
aluminium oxide, non-fibrous	(CAS No) 1344-28-1	1 - 5	Not classified
quartz	(CAS No) 14808-60-7	1 - 5	Carc. 1A, H350

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact : Gently wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable.
Reactivity : Fire conditions may produce small amounts of hexavalent chromium and other oxidation products.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Stop release.

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
Methods for cleaning up : On land, sweep or shovel into suitable containers.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with eyes. Avoid contact with skin.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store this product in a dry location where it can be protected from the elements.
Incompatible products : Strong bases. Strong acids.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

GRFG Mortar (Mixture)		
ACGIH	Not applicable	
OSHA	Not applicable	
quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³
sodium silicate, alkaline (1344-09-8)		
ACGIH	Not applicable	
OSHA	Not applicable	
Magnesium Oxide (1309-48-4)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	Not applicable	

GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

chromium(III) oxide (1308-38-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³
OSHA	Not applicable	
iron(III) oxide (1309-37-1)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
OSHA	Not applicable	
aluminium oxide, non-fibrous (1344-28-1)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
OSHA	Not applicable	

8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: After air drying or heating. Dust when sawing or tear out. Wear appropriate mask.
Other information	: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular Mixture.
Colour	: Black brown
Odour	: Earthy Odor
Odour threshold	: Not applicable
pH	: No data available
Melting point	: > 2000 °F
Freezing point	: Not applicable
Boiling point	: Not applicable
Critical temperature	: Not applicable
Critical pressure	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: Not applicable
Relative evaporation rate (ether=1)	: Not applicable
Flammability (solid, gas)	: None
Explosive limits	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: Not Applicable
Vapour pressure at 50 °C	: Not Applicable
Relative density	: ≈ 2
Relative vapour density at 20 °C	: No data available
Solubility	: Water: Slight
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity	: Not Applicable
Viscosity, kinematic	: Not Applicable
Viscosity, dynamic	: Not Applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Fire conditions may produce small amounts of hexavalent chromium and other oxidation products.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

sodium silicate, alkaline (1344-09-8)	
LD50 oral rat	> 2000 mg/kg (Rat)

Magnesium Oxide (1309-48-4)	
LD50 oral rat	> 5000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit; Literature study)

iron(III) oxide (1309-37-1)	
LD50 oral rat	> 5000 mg/kg (Rat; Literature study)

aluminium oxide, non-fibrous (1344-28-1)	
LD50 oral rat	> 10000 mg/kg (Rat; Experimental value)

quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans

chromium(III) oxide (1308-38-9)	
IARC group	3 - Not classifiable

iron(III) oxide (1309-37-1)	
IARC group	3 - Not classifiable

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Inhalation).
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

sodium silicate, alkaline (1344-09-8)	
LC50 fish 1	2320 mg/l (96 h; Gambusia affinis; Pure substance)
EC50 Daphnia 1	216 mg/l (96 h; Daphnia magna; Pure substance)
LC50 fish 2	210 mg/l (96 h; Brachydanio rerio; Pure substance)
EC50 Daphnia 2	632 mg/l (96 h; Lymnaea sp.; Pure substance)

chromium(III) oxide (1308-38-9)	
LC50 fish 1	> 0.0029 mg/l (96 h; Brachydanio rerio; Measured concentration)
LC50 fish 2	>= 10000 mg/l (96 h; Brachydanio rerio; Nominal concentration)
TLM fish 1	> 1000 mg/l (Leuciscus idus; Nominal concentration)

iron(III) oxide (1309-37-1)	
LC50 fish 1	> 1000 mg/l (48 h; Leuciscus idus; Nominal concentration)

aluminium oxide, non-fibrous (1344-28-1)	
Threshold limit algae 1	> 100 mg/l (72 h; Selenastrum capricornutum; GLP)

12.2. Persistence and degradability

GRFG Mortar (Mixture)	
Persistence and degradability	Not established.

GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

quartz (14808-60-7)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
sodium silicate, alkaline (1344-09-8)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Magnesium Oxide (1309-48-4)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the substance available.
ThOD	Not applicable (inorganic)
chromium(III) oxide (1308-38-9)	
Persistence and degradability	Biodegradability: not applicable. Forming sediments in water. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
iron(III) oxide (1309-37-1)	
Persistence and degradability	Biodegradability: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
aluminium oxide, non-fibrous (1344-28-1)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
12.3. Bioaccumulative potential	
GRFG Mortar (Mixture)	
Bioaccumulative potential	Not established.
quartz (14808-60-7)	
Log Pow	Not applicable
Bioaccumulative potential	No bioaccumulation data available.
sodium silicate, alkaline (1344-09-8)	
Bioaccumulative potential	No bioaccumulation data available.
Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	Bioaccumulation: not applicable.
chromium(III) oxide (1308-38-9)	
BCF other aquatic organisms 1	116 (Crassostrea sp.; Chrome)
BCF other aquatic organisms 2	86 (Mytilus edulis; Chrome)
Bioaccumulative potential	Bioaccumable.
iron(III) oxide (1309-37-1)	
Bioaccumulative potential	No bioaccumulation data available.
aluminium oxide, non-fibrous (1344-28-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects

GRFG Mortar

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Effect on the global warming : No known ecological damage caused by this product.
None known
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Chromite (Cr⁺³) may in normal use, be converted chemically to a chromate (Cr⁺⁶). Hexavalent chromium (Cr⁺⁶) is considered a hazardous material. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

quartz (14808-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

GRFG Mortar (Mixture)

WHMIS Classification : D2A

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

National regulations

quartz (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

GRFG Mortar(Mixture)

U.S. - California - Proposition 65 - Other information

This product contains crystalline silica, a chemical known to the state of California to cause cancer. This product contains chromite (Cr⁺³) which may in normal use, be converted chemically to a chromate (Cr⁺⁶) hexavalent chrome, a chemical known to the State of California to cause cancer.

quartz (14808-60-7)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

No significance risk level (NSRL)

Yes

No

No

No

quartz (14808-60-7)

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : None.

Full text of H-phrases:

Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2B	Serious eye damage/eye irritation, Category 2B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H315	Causes skin irritation
H320	Causes eye irritation
H350	May cause cancer

SDS US (GHS HazCom 2012)

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