

1. Identification

Product identifier NARMAG FG CASTABLE

Other means of identification

Brand Code 629A

Recommended use For Industrial Use Only

Recommended restrictions Avoid dry cutting, blasting, or dust generation.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name HarbisonWalker International

Address 1305 Cherrington Parkway, Suite 100
Moon Township
Pennsylvania
15108
US

Telephone General Phone: 412-375-6600

Website www.thinkHWI.com

Emergency phone number Not available.

Supplier Not available.

2. Hazard identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
MAGNESIUM OXIDE		1309-48-4	70 - 90
CHROMIUM III COMPOUNDS		1308-31-2	10 - 25
ALPHA-ALUMINA		1344-28-1	2.5 - 10
CHROMIUM (III) OXIDE		1308-38-9	2.5 - 10
SILICA, AMORPHOUS, FUMED		69012-64-2	1 - 2.5
Other components below reportable levels			2.5 - 10

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Coughing.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Not available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.003 mg/m ³	Inhalable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	10 mg/m ³	
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.5 mg/m ³	
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Fume.

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

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable.
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.5 mg/m ³	Total

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

Components	Type	Value	Form
CHROMIUM III COMPOUNDS (CAS 1308-31-2)	TWA	0.05 mg/m ³	Total
MAGNESIUM OXIDE (CAS 1309-48-4)	STEL	10 mg/m ³	Respirable dust and/or fume.
	TWA	3 mg/m ³	Respirable dust and/or fume.
		10 mg/m ³	Inhalable fume.
SILICA, AMORPHOUS, FUMED (CAS 69012-64-2)	TWA	4 mg/m ³	Total fume.
		1.5 mg/m ³	Respirable fume.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.003 mg/m ³	Inhalable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.5 mg/m ³	
CHROMIUM III COMPOUNDS (CAS 1308-31-2)	TWA	0.05 mg/m ³	
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.
SILICA, AMORPHOUS, FUMED (CAS 69012-64-2)	TWA	2 mg/m ³	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	TWA	10 mg/m ³	Total dust.
CHROMIUM (III) OXIDE (CAS 1308-38-9)	TWA	0.5 mg/m ³	
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Fume.
SILICA, AMORPHOUS, FUMED (CAS 69012-64-2)	TWA	2 mg/m ³	Respirable dust and/or fume.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
ALPHA-ALUMINA (CAS 1344-28-1)	15 minute	20 mg/m ³	
	8 hour	10 mg/m ³	
CHROMIUM (III) OXIDE (CAS 1308-38-9)	15 minute	1.5 mg/m ³	
	8 hour	0.5 mg/m ³	
CHROMIUM III COMPOUNDS (CAS 1308-31-2)	15 minute	1.5 mg/m ³	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
	8 hour	0.5 mg/m3	
MAGNESIUM OXIDE (CAS 1309-48-4)	15 minute	20 mg/m3	Inhalable fraction.
	8 hour	10 mg/m3	Inhalable fraction.
SILICA, AMORPHOUS, FUMED (CAS 69012-64-2)	8 hour	2 mg/m3	Respirable fraction and fume.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Canada - British Columbia OELs: Skin designation

CHROMIUM III COMPOUNDS (CAS 1308-31-2) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.



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 and chemical properties

Appearance

Physical state Solid.
Form Solid.
Color Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Chlorine. Phosphorus. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Coughing.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

ACGIH sensitization

TRIVALENT CHROMIUM WATER SOLUBLE INORGANIC COMPOUNDS, INCLUDING CHROMITE ORE PROCESSING, AS CR (III), INHALABLE FRACTION (CAS 1308-31-2)	Dermal sensitization
	Respiratory sensitization

Canada - Alberta OELs: Irritant

CHROMIUM (III) OXIDE (CAS 1308-38-9)	Irritant
CHROMIUM III COMPOUNDS (CAS 1308-31-2)	Irritant

Canada - Manitoba OELs Hazard: Dermal sensitization

CHROMIUM III COMPOUNDS (CAS 1308-31-2)	Dermal sensitization
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Canada - Manitoba OELs Hazard: Respiratory sensitization

CHROMIUM III COMPOUNDS (CAS 1308-31-2)	Respiratory sensitization
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Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

ACGIH Carcinogens

ALPHA-ALUMINA (CAS 1344-28-1) A4 Not classifiable as a human carcinogen.
CHROMIUM (III) OXIDE (CAS 1308-38-9) A4 Not classifiable as a human carcinogen.
MAGNESIUM OXIDE (CAS 1309-48-4) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

ALPHA-ALUMINA (CAS 1344-28-1) Not classifiable as a human carcinogen.
CHROMIUM (III) OXIDE (CAS 1308-38-9) Not classifiable as a human carcinogen.
MAGNESIUM OXIDE (CAS 1309-48-4) Not classifiable as a human carcinogen.

Canada - Quebec OELs: Carcinogen category

CHROMIUM III COMPOUNDS (CAS 1308-31-2) Detected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

CHROMIUM (III) OXIDE (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.
CHROMIUM III COMPOUNDS (CAS 1308-31-2) 3 Not classifiable as to carcinogenicity to humans.
SILICA, AMORPHOUS, FUMED (CAS 69012-64-2) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

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.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Hazardous waste code Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

Waste from residues / unused products As sold, this product is not RCRA hazardous. Final used condition must be evaluated prior to disposal. Dispose of waste product in accordance with Federal, State and Local regulations. The chrome compounds (Cr III) in this product may be altered to a hexavalent compound (Cr VI) under certain use conditions, such as exposure to alkali salts and/or high temperatures. Proper waste testing (such as TCLP) must be done to determine the waste status of used product. Reuse and recycling of chrome Refractories is recommended whenever possible.

Contaminated packaging Not available.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

CHROMIUM (III) OXIDE (CAS 1308-38-9)

CHROMIUM III COMPOUNDS (CAS 1308-31-2)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply 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).

16. Other information

Issue date 12-06-2021

Version # 01

Disclaimer This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Revision information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: After Reaction Composition
Transport Information: Material Transportation Information