

Version: 7.0 Revision Date: 05/14/2024

SAFETY DATA SHEET

1. Identification

Material name: HI - FLOW GROUT Material: 088H 50

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals **Restrictions on use:** Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY 19218 REDWOOD ROAD CLEVELAND OH 44110 US

Contact person: Telephone: Emergency telephone number:

EH&S Department 216-531-9222 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3 ^{1.}
Specific Target Organ Toxicity - Repeated Exposure	Category 1 ^{2.}

Target Organs

- 1. Respiratory tract irritation.
- 2. Lung

Unknown toxicity - Health

Acute toxicity, oral	44.65 %
Acute toxicity, dermal	95.29 %
Acute toxicity, inhalation, vapor	99.93 %
Acute toxicity, inhalation, dust or mist	49.63 %

Label Elements

Hazard Symbol:





Hazard(s) not otherwise classified (HNOC):

Storage:

Disposal:

3. Composition/information on ingredients

up.

None.

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	20 - <50%

and easy to do. Continue rinsing. Immediately call a POISON

local, regional, national and international regulations.

CENTER/doctor. IF exposed or concerned: Get medical advice/attention.

Dispose of contents/ container to an approved facility in accordance with

Store in a well-ventilated place. Keep container tightly closed. Store locked



Portland cement	65997-15-1	20 - <50%
Calcium oxide	1305-78-8	1 - <5%
* All concentrations are percent by weight unless ingradient is a gas. Cas concentrations are in percent by volume		

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

4. First-aid measures		
Description of necessary first-a	aid measures	
Inhalation:	Move to fresh air.	
Skin Contact:	Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.	
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.	
Ingestion:	Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.	
Personal Protection for First- aid Responders:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.	
Most important symptoms/effe	cts, acute and delayed	
Symptoms:	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing. Respiratory tract irritation	۱.
Hazards:	No data available.	
Indication of immediate medica	al attention and special treatment needed	
Treatment:	Symptoms may be delayed.	
5. Fire-fighting measures		
General Fire Hazards:	No unusual fire or explosion hazards noted.	
Suitable (and unsuitable) exting	guishing media	
Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.	
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.	
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.	
Special protective equipment a	and precautions for fire-fighters	
Special fire-fighting procedures:	No data available.	



Special protective equipment
for fire-fighters:Self-contained breathing apparatus and full protective clothing must be
worn in case of fire.

6. Accidental release measures Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Do not contaminate water sources or sewer. Prevent further leakage or

spillage if safe to do so. Avoid release to the environment.

Environmental Precautions:

7. Handling and storage Handling

Technical measures (e.g. Local and general ventilation):	Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.
Safe handling advice:	Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.
Contact avoidance measures:	No data available.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.
Storage	
Safe storage conditions:	Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits



Chemical Identity	Туре	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
	OSHA_AC T	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2020)
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Calcium oxide	TWA	2 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)

Chemical name	Туре	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	TWA	0.05 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)



Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (08 2023)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable.	TWA	1 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2017)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Silica, fused - Respirable fraction.	TWA	0.1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Silica, fused - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Fumed silica - Respirable fume.	TWA	1.5 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Fumed silica - Respirable fraction.	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Fumed silica - Respirable dust and/or fume.	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Fumed silica - Total fume.	TWA	4 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2021)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Aluminum oxide - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Aluminum oxide - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable	TWA	3 mg/m3	Canada. British Columbia OELs: Table of



fraction.			Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Aluminum oxide - Respirable.	TWA	1.0 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2022)
Aluminum oxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)
Aluminum oxide - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)
Iron oxide - Dust as Fe	TWA	5 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Iron oxide - Fume as Fe	STEL	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	TWA	5 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Iron oxide - Dust and fume as Fe	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure t Biological or Chemical Agents), as amended (01 2020)

Appropriate Engineering
ControlsMechanical ventilation or local exhaust ventilation may be required.
Observe good industrial hygiene practices. Observe occupational exposure
limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

Eye/face protection:	Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection Hand Protection:	Additional Information: Use suitable protective gloves if risk of skin contact.
Skin and Body Protection:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties



Appearance

Physical state:	solid
Form:	Powder
Color:	Gray
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No
Upper/lower limit on flammability or explose	sive limits
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	2.9
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure



Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and
	mucus membranes.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.
Ingestion:	May be harmful if swallowed.
Symptoms related to the physica	al, chemical and toxicological characteristics
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.
Information on toxicological effe	ects
Acute toxicity (list all possible	e routes of exposure)
Oral Product:	ATEmix: 2,188.98 mg/kg
Dermal Product:	ATEmix: 11,077.51 mg/kg
Inhalation Product:	
Specified substance(s): Crystalline Silica (Quartz)/ Silica Sand	LC 50: > 5.0 mg/l
Calcium oxide	LC 50 (Rat): > 6.04 mg/l
Repeated dose toxicity Product:	No data available.
Skin Corrosion/Irritation Product:	No data available.
Specified substance(s): Calcium oxide	in vivo (Rabbit): Irritating , 24 - 72 h
Serious Eye Damage/Eye Irritati Product: Specified substance(s):	on No data available.



Calcium oxide	Rabbit, 1 h: Irritating
Respiratory or Skin Sensitizatio Product:	n No data available.
Carcinogenicity Product:	No data available.
IARC Monographs on the Evaluation	ation of Carcinogenic Risks to Humans:
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
	m (NTP) Report on Carcinogens: Known To Be Human Carcinogen.
US. OSHA Specifically Regulate Crystalline Silica (Quartz)/ Silica Sand	d Substances (29 CFR 1910.1001-1053), as amended: Cancer
Germ Cell Mutagenicity	
In vitro Product:	No data available.
In vivo Product:	No data available.
Reproductive toxicity Product:	No data available.
Specific Target Organ Toxicity - Single Exposure Product: No data available.	
Specific Target Organ Toxicity - Repeated Exposure Product: No data available.	
	ity - Single Exposure: Respiratory tract irritation. ity - Repeated Exposure: Lung
Aspiration Hazard Product:	No data available.



Other effects:

Constituents of this product may include crystalline silica which, if in inhalable form, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group I carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. Constituents may also contain asbestiform or non-asbestiform tremolite or other silicates as impurities, and above de minimis exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product:	No data available.	
Specified substance(s): Calcium oxide	LC 50 (Oncorhynchus mykiss, 96 h): 50.6 mg/l	
Aquatic Invertebrates Product:	No data available.	
Specified substance(s): Calcium oxide	EC 50 (Daphnia magna, 48 h): 49.1 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study	
Chronic hazards to the aquatic environment:		
Fish Product:	No data available.	
Aquatic Invertebrates Product:	No data available.	
Toxicity to Aquatic Plants Product:	No data available.	
Persistence and Degradability		
Biodegradation Product:	No data available.	
BOD/COD Ratio Product:	No data available.	1/



Bioaccumulative potential Bioconcentration Factor (BCF)
Product:	No data available.
Partition Coefficient n-octanol	/ water (log Kow)
Product:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	Toxic to aquatic life with long lasting effects.
13. Disposal considerations	
Disposal methods:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.
14. Transport information	

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

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

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Proposed Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)



None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended

Chemical Identity

Crystalline Silica	
(Quartz)/ Silica Sand	

OSHA hazard(s) kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards Delayed (Chronic) Health Hazard Skin Corrosion or Irritation Serious eye damage or eye irritation Respiratory or Skin Sensitization Carcinogenicity Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not Regulated.

- US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting Not Regulated.
 - Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) None present or none present in regulated quantities.
 - Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING

Cancer - www.P65Warnings.ca.gov

International regulations

Montreal protocol Not applicable

Stockholm convention Not applicable



Rotterdam convention

Not applicable

Kyoto protocol Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	0 g/l
VOC Method 310	:	0.00 %



Inventory Status: Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EC Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Australia Industrial Chem. Act (AIIC):	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this



	product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Switzerland New Subs Notified/Registered:	One or more components in this product are not listed on or exempt from the Inventory.
Thailand DIW Existing Chemical Inv. List:	One or more components in this product are not listed on or exempt from the Inventory.
Vietnam National Chemical Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	05/14/2024
Version #:	7.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.