

MasterFlow 649 GROUT PART A

Version 1.0 Revision Date: 09/01/2020 SDS Number: 000000259964 Date of last issue: -
Date of first issue: 09/01/2020

SECTION 1. IDENTIFICATION

Product name : MasterFlow 649 GROUT PART A
Product code : 000000000056422410 000000000056422410

Manufacturer or supplier's details

Company name of supplier : Master Builders-Admixtures US,LLC
Address : 23700 CHAGRIN BLVD
Beachwood OH 44122
Emergency telephone : ChemTel: +1-813-248-0585 USA: +1-800-255-3924 Contract
Number MIS9240420


Recommended use of the chemical and restrictions on use

Recommended use : Product for construction chemicals
Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Acute toxicity (Inhalation - vapour) : 3
Acute toxicity (Oral) : 4
Skin corrosion/irritation : 2
Serious eye damage/eye irritation : Category 2A
Skin sensitization : Category 1
Short-term (acute) aquatic hazard : 2
Long-term (chronic) aquatic hazard : 2

GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**

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P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P273 Avoid release to the environment.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P264 Wash face, hands and any exposed skin thoroughly after handling.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P311 If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
 P303 + P352 IF ON SKIN (or hair): Wash with plenty of soap and water.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P391 Collect spillage.
 P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

Disposal:

P501 Dispose of contents/container to appropriate hazardous waste collection point.

Other hazards

No data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : No data available.

Components

Chemical name	CAS-No.	Concentration (% w/w)
Reaction product: bisphenol-A-(epichlorhydrin)-Epoxy resin (number average molecular weight <= 700)	25068-38-6	>= 75 - <= 100
1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17557-23-2	>= 10 - < 15
furfuryl alcohol	98-00-0	>= 5 - < 7

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
 Consult a physician.
 Show this material safety data sheet to the doctor in attendance.
 Symptoms of poisoning may appear several hours later.
 Do not leave the victim unattended.

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| If inhaled | : | Call a physician or poison control center immediately.
If unconscious, place in recovery position and seek medical advice. |
| In case of skin contact | : | If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes. |
| In case of eye contact | : | Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist. |
| If swallowed | : | Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital. |
| Most important symptoms and effects, both acute and delayed | : | Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation. |
| Notes to physician | : | Treat symptomatically. |
-

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|--|---|---|
| Suitable extinguishing media | : | Water spray
Foam
Dry powder
Carbon dioxide (CO ₂) |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during fire fighting | : | Do not allow run-off from fire fighting to enter drains or water courses. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas. |
| Environmental precautions | : | Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal. |

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SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Product is not explosive.
- Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Prevent unauthorized access.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage conditions : Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame.
Protect from direct sunlight.
- Materials to avoid : Observe VCI storage rules.
- Recommended storage temperature : 41 °F / 5 °C
- Further information on storage stability : Minimum storage temperature:

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
furfuryl alcohol	98-00-0	REL value	10 ppm 40 mg/m ³	NIOSH
		STEL value	15 ppm 60 mg/m ³	NIOSH
		PEL	50 ppm 200 mg/m ³	29 CFR 1910.1000 (Table Z-1)
		TWA value	10 ppm	29 CFR

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			40 mg/m3	1910.1000 (Table Z-1-A)
		STEL value	15 ppm 60 mg/m3	29 CFR 1910.1000 (Table Z-1-A)
		TWA value	0.2 ppm	ACGIHTLV
		TWA	0.2 ppm	ACGIH
		TWA	10 ppm 40 mg/m3	NIOSH REL
		ST	15 ppm 60 mg/m3	NIOSH REL
		TWA	50 ppm 200 mg/m3	OSHA Z-1
		TWA	10 ppm 40 mg/m3	OSHA P0
		STEL	15 ppm 60 mg/m3	OSHA P0

Personal protective equipment

- Respiratory protection : Wear a NIOSH-certified (or equivalent) respirator as necessary.
- Hand protection
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Protective measures : Do not inhale gases/vapours/aerosols.
Avoid contact with the skin, eyes and clothing.
Avoid exposure - obtain special instructions before use.
Handle in accordance with good building materials hygiene and safety practice.
Wearing of closed work clothing is recommended.
- Hygiene measures : Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : amber
- Odor : mild
- Odor Threshold : No data available
- pH : not applicable

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Melting point	:	No applicable information available.
Boiling point	:	640 °F / 338 °C
Flash point	:	228 °F / 109 °C
		Method: Flash-Point by Pensky-Martens Closed Cup Tester.
Flammability (solid, gas)	:	not highly flammable Method: derived from flash point
Upper explosion limit / Upper flammability limit	:	16.3 %(V)
Lower explosion limit / Lower flammability limit	:	1.8 %(V)
Relative vapor density	:	Heavier than air.
Density	:	1.16 g/cm ³ (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available.
Autoignition temperature	:	No data available
Decomposition temperature	:	No decomposition if stored and handled as prescribed/indicated.
Explosive properties	:	Not explosive Not explosive
Oxidizing properties	:	Based on its structural properties the product is not classified as oxidizing.
Molecular weight	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	See SDS section 7 - Handling and storage.
Incompatible materials	:	Strong bases Strong acids
Hazardous decomposition products	:	No hazardous decomposition products if stored and handled as prescribed/indicated.

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SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : May cause irreversible eye damage.

Respiratory or skin sensitization**Skin sensitization**

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : Causes sensitization.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Product:**

General Information : Remarks: According to experience, the product is considered to be harmless to health if used in the correct manner.

Further information**Product:**

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Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential**Components:****1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane:**

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

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with national, state and local regulations.
Do not discharge into drains/surface waters/groundwater.

Contaminated packaging : Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

US State Regulations

Pennsylvania Right To Know

furfuryl alcohol 98-00-0

New Jersey Right To Know

furfuryl alcohol 98-00-0

California Prop. 65

WARNING: This product can expose you to chemicals including furfuryl alcohol, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

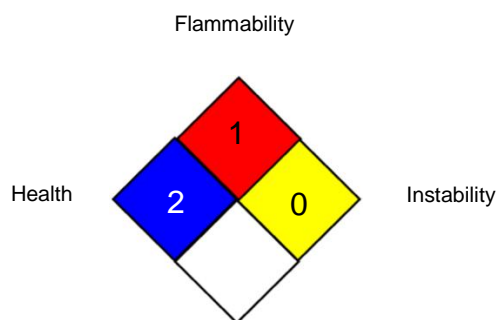
The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH		M
FLAMMABILITY		M
PHYSICAL HAZARD		

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

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29 CFR 1910.1000 (Table Z-1-A)	:	OSHA - Table Z-1-A (29 CFR 1910.1000)
29 CFR 1910.1000 (Table Z-1)	:	OSHA - Table Z-1 (Limits for Air Contaminants) 29 CFR 1910.1000
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIHTLV	:	American Conference of Governmental Industrial Hygienists - threshold limit values (US)
NIOSH	:	NIOSH Pocket Guide to Chemical Hazards (US)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
29 CFR 1910.1000 (Table Z-1-A) / STEL value	:	Short Term Exposure Limit (STEL):
29 CFR 1910.1000 (Table Z-1-A) / TWA value	:	Time Weighted Average (TWA):
29 CFR 1910.1000 (Table Z-1) / PEL	:	Permissible exposure limit
ACGIH / TWA	:	8-hour, time-weighted average
ACGIHTLV / TWA value	:	Time Weighted Average (TWA):
NIOSH / REL value	:	Recommended exposure limit (REL):
NIOSH / STEL value	:	Short Term Exposure Limit (STEL):
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances

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es; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

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SECTION 1. IDENTIFICATION

Product name : MasterFlow 649 GROUT PART B
Product code : 000000000051680977 000000000051680977
Other means of identification : MFlow 649 GRT PTB

Manufacturer or supplier's details

Company name of supplier : Master Builders-Construction Systems
US, LLC
Address : 23700 CHAGRIN BLVD
Beachwood OH 44122
Emergency telephone : ChemTel: +1-813-248-0585
National Emergency Tele-
phone Number : USA: +1-800-255-3924 ChemTel contract no. MIS9240420

Recommended use of the chemical and restrictions on use

Recommended use : Injection or grouting applications
Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 3
Skin corrosion : Category 1B
Serious eye damage : Category 1
Skin sensitization : Category 1
Specific target organ toxicity : Category 3
- single exposure
Reproductive toxicity : Category 2
Short-term (acute) aquatic
hazard : Category 1
Long-term (chronic) aquatic
hazard : Category 1

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GHS label elements

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: H331 Toxic if inhaled.
 H314 Causes severe skin burns and eye damage.
 H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation.
 H361d Suspected of damaging the unborn child.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing mist or vapors.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.
 P391 Collect spillage.

Storage:

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P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
 Chemical nature : curing agent

Components

Chemical name	CAS-No.	Concentration (% w/w)
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	68953-36-6	>= 70 - < 90
2,2'-iminodi(ethylamine)	111-40-0	>= 0 - < 20
3,6,9-triazaundecamethylene-1,11-diamine	112-57-2	>= 5 - < 10
N,N'-bis(3-aminopropyl)ethylenediamine	10563-26-5	>= 0 - < 20
triethylenetetramine	112-24-3	>= 0 - < 20
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	>= 1 - < 5
N,N-Bis(2-aminoethyl)ethylenediamine	4097-89-6	>= 0 - < 5
Salicylic acid	69-72-7	>= 0 - < 1
Fatty acids, C18-unsatd., trimers, compds. with oleylamine	147900-93-4	>= 0.1 - < 1
N-(2-aminoethyl)-1,3-propanediamine	13531-52-7	>= 0 - <= 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled : If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

In case of skin contact : After contact with skin, wash immediately with plenty of water and soap.
 Under no circumstances should organic solvent be used.
 If irritation develops, seek medical attention.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

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- Keep eye wide open while rinsing.
Remove contact lenses.
Seek medical advice.
- If swallowed : Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.
Do not induce vomiting unless told to by a poison control center or doctor.
- Most important symptoms and effects, both acute and delayed : Toxic if inhaled.
Causes severe skin burns and eye damage.
Harmful if swallowed.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of damaging the unborn child.
- Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Foam
Water spray
Dry powder
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : water jet
- Hazardous combustion products : nitrogen oxides
Carbon oxides
fumes/smoke
carbon black
corrosive gases/vapours
- Further information : The degree of risk is governed by the burning substance and the fire conditions.
Contaminated extinguishing water must be disposed of in accordance with official regulations.
- Special protective equipment for fire-fighters : Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective clothing.
Do not breathe vapour/aerosol/spray mists.
Handle in accordance with good building materials hygiene and safety practice.
- Environmental precautions : Contain contaminated water/firefighting water.
Do not discharge into drains/surface waters/groundwater.
- Methods and materials for : Soak up with inert absorbent material (e.g. sand, silica gel,

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containment and cleaning up acid binder, universal binder, sawdust).
Pick up with suitable appliance and dispose of.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Handle and open container with care.
Wear personal protective equipment.
Avoid contact with skin and eyes.
Avoid aerosol formation.
Keep container tightly sealed.
Keep away from sources of ignition - No smoking.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage conditions : Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame.
Protect from direct sunlight.
Store protected against freezing.
- Recommended storage temperature : > 39 °F / > 4 °C
- Further information on storage stability : PROTECT FROM FREEZING DURING THE COLD-SEASON (BELOW 40°F / 5°C).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2'-iminodi(ethylamine)	111-40-0	TWA value	1 ppm	ACGIHTLV
		REL value	1 ppm 4 mg/m ³	NIOSH
		TWA value	1 ppm 4 mg/m ³	29 CFR 1910.1000 (Table Z-1-A)
		TWA	1 ppm	ACGIH
		TWA	1 ppm 4 mg/m ³	NIOSH REL
3,6,9-triazaundecamethylene-	112-57-2	TWA	1 ppm 4 mg/m ³	OSHA P0
		TWA	5 mg/m ³	US WEEL

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1,11-diamine triethylenetetramine	112-24-3	TWA	1 ppm	US WEEL
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Engineering measures : Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Wear appropriate certified respirator when exposure limits may be exceeded.
 Use NIOSH approved respiratory protection.

Hand protection

Remarks : Wear chemical resistant protective gloves. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection : Tightly fitting safety goggles (chemical goggles) and face shield.

Skin and body protection : Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

Protective measures : Do not inhale gases/vapours/aerosols.
 Avoid contact with the skin, eyes and clothing.
 Handle in accordance with good building materials hygiene and safety practice.

Hygiene measures : When using, do not eat, drink or smoke.
 Hands and/or face should be washed before breaks and at the end of the shift.
 At the end of the shift the skin should be cleaned and skin-care agents applied.
 Gloves must be inspected regularly and prior to each use.
 Replace if necessary (e.g. pinhole leaks).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : amber

Odor : ammonia-like

Odor Threshold : not determined

pH : No data available

Melting point : No data available

Boiling point : > 392 °F / > 200 °C

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Flash point	:	325 °F / 163 °C
		Method: Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus The product has not been tested. The statement has been derived from the properties of the individual components.
Evaporation rate	:	No data available
Flammability (liquids)	:	Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	< 0.01 hPa (68 °F / 20 °C)
Relative vapor density	:	Heavier than air.
Relative density	:	No data available
Density	:	0.96 g/cm ³ (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	not applicable for mixtures
Autoignition temperature	:	610 °F / 321 °C The product has not been tested. The statement has been derived from the properties of the individual components.
Decomposition temperature	:	No decomposition if stored and handled as prescribed/indicated.
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Based on its structural properties the product is not classified as oxidizing.
Sublimation point	:	No data available

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Molecular weight : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability : The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions : The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid : See SDS section 7 - Handling and storage.

Incompatible materials : Oxidizing agents
strong alkalis
Acids

Hazardous decomposition products : No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.
Toxic if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,948 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 8.26 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

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Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging the unborn child.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information**Product:**

Remarks : The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:****Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:**Fatty acids, tall-oil, reaction products with tetraethylenepentamine:**

M-Factor (Acute aquatic tox- : 10
icity)

M-Factor (Chronic aquatic : 1
toxicity)

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological infor- : Do not discharge product into the environment without control.

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mation

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : Observe national and local legal requirements. Residues should be disposed of in the same manner as the substance/product.
- Contaminated packaging : Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

- UN number : UN 2735
- Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.
(DIETHYLENETRIAMINE, TRIETHYLENETETRAMINE, FATTY ACIDS, TALL-OIL, REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE)
- Class : 8
- Packing group : II
- Labels : 8

IATA-DGR

- UN/ID No. : UN 2735
- Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.
(DIETHYLENETRIAMINE, TRIETHYLENETETRAMINE)
- Class : 8
- Packing group : II
- Labels : Corrosive
- Packing instruction (cargo aircraft) : 855
- Packing instruction (passenger aircraft) : 851

IMDG-Code

- UN number : UN 2735
- Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.
(DIETHYLENETRIAMINE, TRIETHYLENETETRAMINE, FATTY ACIDS, TALL-OIL, REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE)
- Class : 8
- Packing group : II
- Labels : 8
- EmS Code : F-A, S-B
- Marine pollutant : yes

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number	: UN 2735
Proper shipping name	: AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE, TRIETHYLENETETRAMINE, FATTY ACIDS, TALL-OIL, REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE)
Class	: 8
Packing group	: II
Labels	: CORROSIVE
ERG Code	: 153
Marine pollutant	: yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION**US State Regulations****Pennsylvania Right To Know**

2,2'-iminodi(ethylamine)	111-40-0
3,6,9-triazaundecamethylene-1,11-diamine	112-57-2
triethylenetetramine	112-24-3

New Jersey Right To Know

2,2'-iminodi(ethylamine)	111-40-0
3,6,9-triazaundecamethylene-1,11-diamine	112-57-2
triethylenetetramine	112-24-3

The ingredients of this product are reported in the following inventories:

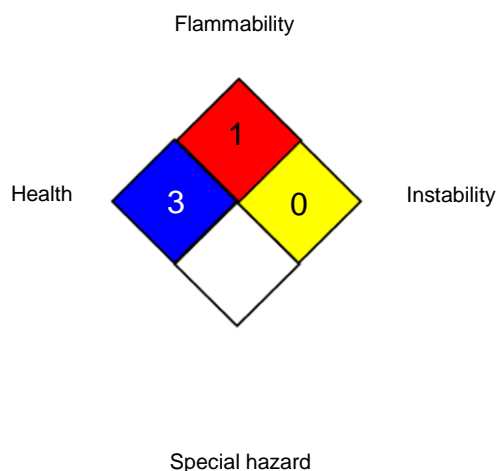
TSCA	: All substances listed as active on the TSCA inventory
DSL	: All components of this product are on the Canadian DSL

SECTION 16. OTHER INFORMATION**Further information**

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NFPA 704:



HMIS® IV:

HEALTH		
FLAMMABILITY		
PHYSICAL HAZARD		

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

29 CFR 1910.1000 (Table Z-1-A)	: OSHA - Table Z-1-A (29 CFR 1910.1000)
ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIHTLV	: American Conference of Governmental Industrial Hygienists - threshold limit values (US)
NIOSH	: NIOSH Pocket Guide to Chemical Hazards (US)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA P0	: USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
US WEEL	: USA. Workplace Environmental Exposure Levels (WEEL)
29 CFR 1910.1000 (Table Z-1-A) / TWA value	: Time Weighted Average (TWA):
ACGIH / TWA	: 8-hour, time-weighted average
ACGIHTLV / TWA value	: Time Weighted Average (TWA):
NIOSH / REL value	: Recommended exposure limit (REL):
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	: 8-hour time weighted average
US WEEL / TWA	: 8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - In-

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ternational Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN

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SECTION 1. IDENTIFICATION

Product name : MasterFlow 649 GROUT PART C
Product code : 000000000055360873 000000000055360873

Manufacturer or supplier's details

Company name of supplier : Master Builders-Construction Systems
US, LLC
Address : 23700 CHAGRIN BLVD
Beachwood OH 44122
Emergency telephone : ChemTel: +1-813-248-0585 USA: +1-800-255-3924 Contract
Number MIS9240420

Recommended use of the chemical and restrictions on use

Recommended use : Product for construction chemicals
Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Specific target organ toxicity : 2 (Kidney, Immune system)
- repeated exposure (Inhalation)

Carcinogenicity (Inhalation) : 1A (Lung)

Specific target organ toxicity : Category 1
- repeated exposure (Inhalation)

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P201 Obtain special instructions before use.
P260 Do not breathe dust or mist.
P202 Do not handle until all safety precautions have been read and understood.
P270 Do not eat, drink or smoke when using this product.

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P264 Wash face, hands and any exposed skin thoroughly after handling.

Response:

P314 Get medical advice/ attention if you feel unwell.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to appropriate hazardous waste collection point.

Other hazards

No data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : No data available.

Components

Chemical name	CAS-No.	Concentration (% w/w)
crystalline silica	14808-60-7	>= 50 - < 100
Glass, oxide, chemicals	65997-17-3	>= 5 - < 7
Barium sulfate	7727-43-7	>= 3 - < 7

SECTION 4. FIRST AID MEASURES

- General advice : First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing. Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.
- If inhaled : Keep patient calm, remove to fresh air, seek medical attention. Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : Immediately wash thoroughly with soap and water, seek medical attention.
- In case of eye contact : Wash affected eyes for at least 15 minutes under running water with eyelids held open. Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Immediately rinse mouth and then drink 200-300 ml of water,

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seek medical attention.
 Induce vomiting immediately and call a physician.
 Keep respiratory tract clear.
 Do not give milk or alcoholic beverages.
 Never give anything by mouth to an unconscious person.
 If symptoms persist, call a physician.
 Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : May cause cancer.
 Causes damage to organs through prolonged or repeated exposure if inhaled.
 May cause damage to organs through prolonged or repeated exposure.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
 Foam
 Dry powder
 Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet

Hazardous combustion products : harmful vapours
 nitrogen oxides
 fumes/smoke
 carbon black
 carbon oxides

Further information : Standard procedure for chemical fires.
 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
 Avoid dust formation.
 Avoid breathing dust.
 Ensure adequate ventilation.

Environmental precautions : Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Avoid dust formation.
 Provide appropriate exhaust ventilation at places where dust is formed.

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- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage conditions : Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame.
Protect from direct sunlight.
- Materials to avoid : No applicable information available.
- Recommended storage temperature : 32 °F / 0 °C
- Further information on storage stability : Minimum storage temperature:

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Barium sulfate	7727-43-7	TWA value (Inhalable fraction)	5 mg/m3	ACGIHTLV
		REL value (Respirable)	5 mg/m3	NIOSH
		REL value (Total)	10 mg/m3	NIOSH
		PEL (Total dust)	15 mg/m3	29 CFR 1910.1000 (Table Z-1)
		PEL (Respirable fraction)	5 mg/m3	29 CFR 1910.1000 (Table Z-1)
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
		TWA (Respirable)	5 mg/m3	NIOSH REL
		TWA (total)	10 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respir-	5 mg/m3	OSHA Z-1

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		able fraction)		
		TWA (Total dust)	10 mg/m ³	OSHA P0
		TWA (respirable dust fraction)	5 mg/m ³	OSHA P0
Glass, oxide, chemicals	65997-17-3	TWA value (Inhalable fraction)	5 mg/m ³	ACGIHTLV
		REL value (Fiber, total)	5 mg/m ³	NIOSH
		REL value (fibers, total dust)	5 mg/m ³	NIOSH
		REL value (Fiber)	3 fibers/cm ³	NIOSH
		REL value (Fibrous dust)	3 fibers/cm ³	NIOSH
		TWA value (Fiber)	1 fibers/cm ³	ACGIHTLV
		TWA value (Fiber)	0.2 fibers/cm ³	ACGIHTLV
		TWA (fibers)	1 fibres per cubic centimeter	ACGIH
		TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
		TWA (fibers)	1 fibres per cubic centimeter	ACGIH
		TWA (fibers)	1 fibres per cubic centimeter	ACGIH
crystalline silica	14808-60-7	TWA value (Respirable fraction)	0.025 mg/m ³	ACGIHTLV
		REL value (Respirable dust)	0.05 mg/m ³	NIOSH
		TWA value (Respirable dust)	0.05 mg/m ³	29 CFR 1910.1001-1050
		OSHA Action level (Respirable dust)	0.025 mg/m ³	29 CFR 1910.1001-1050
		TWA (Respirable dust)	0.05 mg/m ³	OSHA Z-1
		TWA (respirable)	10 mg/m ³ / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m ³	OSHA P0
		TWA (Res-	0.025 mg/m ³	ACGIH

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		pirable particulate matter)	(Silica)	
		PEL (respirable)	0.05 mg/m3	OSHA CARC
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL

Engineering measures : No applicable information available.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved (or equivalent) particulate respirator if ventilation is inadequate to control dust.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures : Avoid inhalation of dusts.
Wearing of closed work clothing is required additionally to the stated personal protection equipment.
Avoid exposure - obtain special instructions before use.
Handle in accordance with good building materials hygiene and safety practice.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granules

Color : gray

Odor : odorless

Odor Threshold : No data available

pH : neutral to slightly alkaline

Melting point : No applicable information available.

Boiling point : No applicable information available.

Flash point : does not flash

Evaporation rate : No applicable information available.

Flammability (solid, gas) : not determined

Self-ignition : not self-igniting

Upper explosion limit / Upper : No applicable information available.

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flammability limit

Lower explosion limit / Lower flammability limit : No applicable information available.

Vapor pressure : No applicable information available.

Relative vapor density : No applicable information available.

Relative density : No data available.

Bulk density : 1,800 - 2,400 kg/m³

Solubility(ies)

Water solubility : insoluble

No applicable information available.

Solubility in other solvents : No applicable information available.

Partition coefficient: n-octanol/water : No applicable information available.

Autoignition temperature : No applicable information available.

Decomposition temperature : No decomposition if stored and handled as prescribed/indicated.

Viscosity

Viscosity, dynamic : No applicable information available.

Viscosity, kinematic : No applicable information available.

Explosive properties : Not explosive
Not explosive

Oxidizing properties : Based on its structural properties the product is not classified as oxidizing.

Self-heating substances : No data available

Sublimation point : No applicable information available.

Molecular weight : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : See SDS section 7 - Handling and storage.

Incompatible materials : Strong acids
Strong bases
Strong oxidizing agents

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Hazardous decomposition products	:	Strong reducing agents No hazardous decomposition products if stored and handled as prescribed/indicated.
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SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

Product:

Acute oral toxicity : ATE: > 5,000 mg/kg

Acute inhalation toxicity : ATE: > 5.0000 mg/l
Remarks: Determined for dust

Acute dermal toxicity : ATE: > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure if inhaled.

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

Further information**Product:**

Remarks : The product has not been tested. The statement has been derived from the properties of the individual components.

Remarks : No data available

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential**Components:****crystalline silica:**

Partition coefficient: n-octanol/water : Remarks: not applicable

Glass, oxide, chemicals:

Partition coefficient: n-octanol/water : Remarks: The value has not been determined because the substance is inorganic.

Barium sulfate:

Partition coefficient: n-octanol/water : Pow: 4.26
log Pow: 0.63
Method: other (calculated)

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological information : There is a high probability that the product is not acutely harmful to aquatic organisms.
The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with national, state and local regulations.
Do not discharge into drains/surface waters/groundwater.

Contaminated packaging : Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

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SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION**US State Regulations****Pennsylvania Right To Know**

Barium sulfate	7727-43-7
Quartz (SiO ₂)	14808-60-7
Glass, oxide, chemicals	65997-17-3
crystalline silica	14808-60-7

New Jersey Right To Know

Glass, oxide, chemicals	65997-17-3
crystalline silica	14808-60-7

California Prop. 65

WARNING: This product can expose you to chemicals including Quartz (SiO₂), which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

The ingredients of this product are reported in the following inventories:

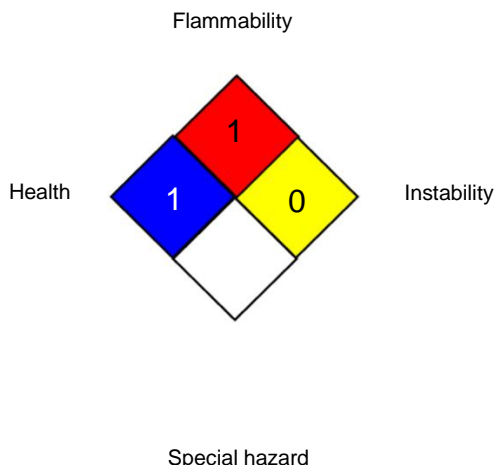
TSCA : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION**Further information**

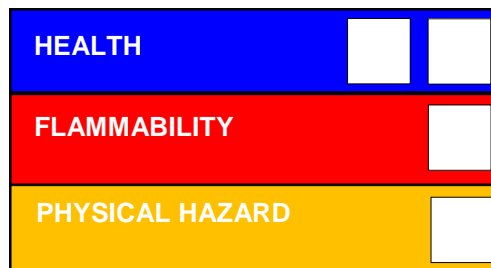
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NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

- 29 CFR 1910.1000 (Table Z-1) : OSHA - Table Z-1 (Limits for Air Contaminants) 29 CFR 1910.1000
- 29 CFR 1910.1001-1050 : OSHA - Specifically Regulated Substances (29 CFR 1910.1001-1050)
- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- ACGIHTLV : American Conference of Governmental Industrial Hygienists - threshold limit values (US)
- NIOSH : NIOSH Pocket Guide to Chemical Hazards (US)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens
- OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
- OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
- 29 CFR 1910.1000 (Table Z-1) / PEL : Permissible exposure limit
- 29 CFR 1910.1001-1050 / OSHA Action level : OSHA Action level:
- 29 CFR 1910.1001-1050 / TWA value : Time Weighted Average (TWA):
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIHTLV / TWA value : Time Weighted Average (TWA):
- NIOSH / REL value : Recommended exposure limit (REL):
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- OSHA CARC / PEL : Permissible exposure limit (PEL)
- OSHA P0 / TWA : 8-hour time weighted average
- OSHA Z-1 / TWA : 8-hour time weighted average
- OSHA Z-3 / TWA : 8-hour time weighted average

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AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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