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:
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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin)-Epoxy resin (number average molecular weight &lt;= 700)</td>
<td>25068-38-6</td>
<td>&gt;= 75 - &lt;= 100</td>
</tr>
<tr>
<td>1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane</td>
<td>17557-23-2</td>
<td>&gt;= 10 - &lt; 15</td>
</tr>
<tr>
<td>Furfuryl alcohol</td>
<td>98-00-0</td>
<td>&gt;= 5 - &lt; 7</td>
</tr>
</tbody>
</table>

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.
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 (CO2)

Unsuitable extinguishing media:
- High volume water jet

Specific hazards during firefighting:
- 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.
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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>98-00-0</td>
<td>REL value</td>
<td>10 ppm 40 mg/m3</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL value</td>
<td>15 ppm 60 mg/m3</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>50 ppm 200 mg/m3</td>
<td>29 CFR 1910.1000 (Table Z-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA value</td>
<td>10 ppm</td>
<td>29 CFR</td>
</tr>
</tbody>
</table>

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## 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 workplace.

**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

<table>
<thead>
<tr>
<th>Appearance</th>
<th>liquid</th>
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</thead>
<tbody>
<tr>
<td>Color</td>
<td>amber</td>
</tr>
<tr>
<td>Odor</td>
<td>mild</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
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<tr>
<td>pH</td>
<td>not applicable</td>
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</table>

### STEL value

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>40 mg/m³</td>
<td>15 ppm</td>
<td>29 CFR 1910.1000 (Table Z-1-A)</td>
</tr>
<tr>
<td></td>
<td>60 mg/m³</td>
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</table>

### TWA value

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>0.2 ppm</td>
<td></td>
<td>ACGIHTLV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
</tr>
<tr>
<td>0.2 ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TWA

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<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>10 ppm</td>
<td>40 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 ppm</td>
<td>60 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>

### ST

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<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>50 ppm</td>
<td>200 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 ppm</td>
<td>40 mg/m³</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

### STEL

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15 ppm</td>
<td>60 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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/cm³ (68 °F / 20 °C)

Solubility(ies) : insoluble

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

Further information

**Product:**
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
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:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Special hazard

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

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
SAFETY DATA SHEET

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

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; EHS - 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 Substanc-

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