SECTION 1: IDENTIFICATION

GHS PRODUCT IDENTIFIERS:
PRODUCT NAME: MAS Epoxies Phenolic Microballoons
SYNONYMS, TRADE NAMES: MAS Microballoons, Filler
OTHER MEANS OF IDENTIFICATION: Not available

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:
USES: Low Density Filler for Epoxy Resin
RESTRICTIONS ON USE: None Identified

SUPPLIER’S DETAILS:
MANUFACTURER/SUPPLIER: Endurance Technologies, Inc.
275 Bridge Point Drive
South Saint Paul, MN  55075, USA
TELEPHONE: +1 651 451 8000
FACSIMILE: +1 651 451 9728

CONTACT PERSON: Eric Frank

EMERGENCY PHONE NUMBER:
CHEMTREC (24 HRS): USA 1 800 424 9300
CHEMTREC (24 HRS): INTERNATIONAL +1 703 527 3887

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION OF SUBSTANCE OR MIXTURE:
Eye irritation: Category 2A, H319
Respiratory sensitizer: Category 1, H334
Skin irritant: Category 2, H315
Skin sensitizer: Category 1, H317
STOT, single exposure: Category 3, H335

GHS LABEL ELEMENTS:

HAZARD SYMBOLS:

SIGNAL WORDS: Danger
HAZARD STATEMENTS:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

PRECAUTIONARY STATEMENTS:
PREVENTION: P261 Avoid breathing dust, fumes, vapors and spray
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves, clothing, and eye/face protection.
P284 Incase of inadequate ventilation, wear respiratory protection.

RESPONSE:
P301+P312 IF SWALLOWED: Call POISON CENTER and/or doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical attention.
P308+P313 IF exposed or concerned: Get medical attention.
P361 Collect spillage.

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

DISPOSAL:
P501 Dispose of contents and containers in accordance with local, regional and international regulations.

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – Annex III

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>9003-35-4</td>
<td>100%</td>
</tr>
</tbody>
</table>

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: FIRST-AID MEASURES

DESCRIPTION OF NECESSARY FIRST-AID MEASURES:

INHALATION: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention if breathing difficulties continue.

SKIN: Remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the material remains (at least 15-20 minutes). Launder clothing before reuse. Get medical attention if symptoms occur.

EYES: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. Seek medical attention if irritation develops or persists.

INGESTION: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Drink lots of water. Seek medical attention.

MOST IMPORTANT SYMPTOMS AND EFFECTS, ACUTE AND DELAYED:

SYMPTOMS: Irritation. Pre-existing skin problems and respiratory conditions may be aggravated by prolonged or repeated contact. See section 11 for additional information.
SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

**SUITABLE:**
Use water spray, foam, dry chemical or carbon dioxide. Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire. There is no restriction on the type of fire extinguisher that may be used.

**UNSUITABLE:**
None.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:

**UNUSUAL FIRE & EXPLOSION HAZARDS:**
Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with the air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.

**HAZARDOUS COMBUSTION PRODUCTS:**
Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous decomposition products for additional information.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS:
Wear self-contained breathing apparatus (SCBA) equipped with a full face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations. See section 9 for additional information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

ENVIRONMENTAL PRECAUTIONS:
Do not flush product into public sewer, water systems or surface waters.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:
Wear proper personal protective clothing and equipment. Pick up and arrange disposal without creating dust. Sweep up and shovel. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:
As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Use under well-ventilated conditions. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume, vapor or dust generated by this product. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing and shoes before reuse.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
Keep away from heat, sparks and open flames. Store dry at 15-40°C, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Empty container contains residual product which may exhibit hazards of
product. Do not reuse empty container without commercial cleaning or reconditioning. Wood flour or wood dust has a strong to severe explosion hazard if a dust “cloud” contains an ignition source. Refer to NFPA 664 & NFPA 68 for additional safe handling requirements.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS:

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS NUMBER</th>
<th>ACGIH-TLV</th>
<th>OSHA-TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>9003-35-4</td>
<td>Not available</td>
<td>15 mg/m³ (total dust)</td>
</tr>
</tbody>
</table>

APPROPRIATE ENGINEERING CONTROLS: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, vapors and dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials. If necessary, use local exhaust ventilation and process enclosure to control airborne dust.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE):

**EYE/FACE PROTECTION:** Safety glasses or goggles required. In extremely dusty environments wear unvented or indirectly vented goggles. Contact lenses should not be worn when working in extremely dusty environments.

**SKIN PROTECTION:** Wear chemical resistant (impervious) gloves; PVC, neoprene, nitrile rubber, EVAL, butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves.

**RESPIRATORY PROTECTION:** Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume, vapors or dust exceed the applicable exposure limit(s) of any chemical substance listed in this SDS.

**GENERAL PROTECTION:** Eyewash fountains and safety showers are recommended in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>APPEARANCE:</th>
<th>Fine powder</th>
<th>UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR:</td>
<td>Red brown</td>
<td>VAPOUR PRESSURE:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ODOUR:</td>
<td>Odorless</td>
<td>VAPOUR DENSITY:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ODOUR THRESHOLD:</td>
<td>Not available</td>
<td>RELATIVE DENSITY:</td>
<td>0.20 to 0.80</td>
</tr>
<tr>
<td>PH:</td>
<td>Not applicable</td>
<td>SOLUBILITY(IES):</td>
<td>Not soluble in water</td>
</tr>
<tr>
<td>MELTING POINT/ FREEZING POINT:</td>
<td>Does not melt</td>
<td>PARTITION COEFFICIENT (n-octanol/water):</td>
<td>Not available</td>
</tr>
<tr>
<td>INITIAL BOILING POINT AND BOILING RANGE:</td>
<td>Does not boil</td>
<td>AUTO-IGNITION TEMPERATURE:</td>
<td>500°C (ASTM D1929)</td>
</tr>
<tr>
<td>FLASH POINT:</td>
<td>Not applicable</td>
<td>DECOMPOSITION TEMPERATURE:</td>
<td>Not available</td>
</tr>
<tr>
<td>EVAPORATION RATE:</td>
<td>Not applicable</td>
<td>VISCOSITY:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>FLAMMABILITY:</td>
<td>Not available</td>
<td>MEAN PARTICLE SIZE:</td>
<td>70 microns (sieve</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
PHENOLIC MICROBALLOONS

(SOLID, GAS):

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Not applicable.
CHEMICAL STABILITY: Stable under conditions of normal storage and use.
POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur
CONDITIONS TO AVOID: Incompatible materials, excessive heat and ignition sources.
INCOMPATIBLE MATERIALS: Strong acids and bases, halogens, acyl halides.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, formaldehyde and phenol derivatives upon decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON THE LIKELY ROUTES OF EXPOSURE: Eyes, skin, inhalation and ingestion.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:
EYES: Causes serious eye irritation.
SKIN: Causes skin irritation. May cause an allergic skin reaction.
INHALATION: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
INGESTION: Not expected to be applicable for this product. May cause illness.

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE: Formaldehyde has been shown to cause cancer in laboratory animals and mutations in a variety of in-vitro test systems. The relevance of these findings for human is unknown. Formaldehyde is listed as a carcinogen by IARC, NTP and OSHA.

ACUTE TOXICITY:
CHEMICAL NAME | LC₅₀ INHALATION | LD₅₀ ORAL (RAT) | LD₅₀ DERMAL (RABBIT)
--- | --- | --- | ---
Phenolic Resin | Not available | Not available | Not available

CORROSION / IRRITATION / SENSITIZATION INFORMATION:
SKIN CORROSION/IRRITATION: Skin irritation – Category 2
SERIOUS EYE DAMAGE/IRRITATION: Eye irritation – Category 2A
RESPIRATORY OR SKIN SENSITIZATION: Respiratory sensitization – Category 1
Skin sensitization – Category 1

CARCINOGENICITY / MUTAGENICITY / REPRODUCTIVE TOXICOLOGY INFORMATION:
GERM CELL MUTAGENICITY: Information is not available.
CARCINOGENICITY: Information is not available.
REPRODUCTIVE TOXICITY: Information is not available.

SPECIFIC TARGET ORGAN TOXICITY (STOT):
STOT-SINGLE EXPOSURE: STOT, single exposure – Category 3
STOT-REPEATED EXPOSURE: Information is not available.

ASPIRATION HAZARD: Information is not available.

OTHER INFORMATION: Additional information is not available.
### SECTION 12. ECOLOGICAL INFORMATION

#### TOXICITY:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LC$_{50}$ 96 Hours (Fish)</th>
<th>EC$_{50}$ 24 Hours (Daphnia)</th>
<th>IC$_{50}$ 96 Hours (Bacteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

N/E = Not established (no exposure limits established for listed substances for listed country/region/organization).

#### PERSISTENCE AND DEGRADABILITY:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OECD Derived from OECD 301F (Biodegradation Test) - 28 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>Does not dissolve in water</td>
</tr>
</tbody>
</table>

#### BIOACCUMULATIVE POTENTIAL:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log $P_{ow}$</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

#### MOBILITY IN SOIL:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Soil/Water Partition Coefficient (Koc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resin</td>
<td>Not available</td>
</tr>
</tbody>
</table>

#### OTHER ADVERSE EFFECTS:

Additional information is not available.

### SECTION 13. DISPOSAL CONSIDERATIONS

#### DISPOSAL METHODS:

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate. See section 8 for recommendations on the use of personal protective equipment.

### SECTION 14. TRANSPORTATION INFORMATION

#### UN NUMBER:

- **UN PROPER SHIPPING NAME:** Non Regulated

#### TRANSPORT HAZARD CLASS:

- **U.S. DOT HAZARD CLASS:** Not dangerous goods
- **CANADA TDG HARZARD CLASS:** Not dangerous goods
- **EUROPE ADR/RID HAZARD CLASS:** Not dangerous goods
- **IMDG CODE (OCEAN) HAZARD CLASS:** Not dangerous goods
- **ICAO/IATA (AIR) HAZARD CLASS:** Not dangerous goods

#### PACKING GROUP:

Information is not available.

#### ENVIRONMENTAL HAZARDS:

- **MARINE POLLUTANT:** No
- **HAZARDOUS SUBSTANCE (USA):** No

#### SPECIAL PRECAUTIONS FOR USER:

Information is not available.

#### TRANSPORTING IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:

Information is not available.
SAFETY DATA SHEET
PHENOLIC MICROBALLOONS

LABEL FOR CONVEYANCE:

OTHER INFORMATION:

SECTION 15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION:

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV – List of substances subject to authorization, Substances of very high concern
None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
None of the components are listed.

OTHER REGULATIONS: Additional information is not available.

CHEMICAL INVENTORIES:

Canadian Domestic Substances List (DSL): Y
Canadian Non-Domestic Substances List (NDSL): N
European Inventory of Existing Chemical Substances (EINECS): Y
European List of Notified Chemical Substances (ENCS): N
U.S. Toxic Substances Control Act (TSCA): Y

A “Y” listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A “N” listing indicates that for one or more components: 1) there is no listing on the public inventory; 2) no information is available; or 3) the component has not been reviewed.

SECTION 16. OTHER INFORMATION

REVISION DATE: March 25, 2015

LEGEND: ACGIH: American Conference of Governmental Industrial Hygienists
ADR/RID: European dangerous goods transport road and rail regulations
CAS No: Chemical Abstract Service Registry Number
DOT: Department of Transportation (U.S.)
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods code
OEL: Occupational Exposure Limits
OSHA: Occupational Safety and Health Administration (U.S.)
PEL: Permissible Exposure Limit
RQ: Reportable Quantity
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
TDG: Canadian Transportation of Dangerous Goods Act and Regulations
UN: United Nations
U.S.: United States

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thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.