Safety Data Sheet

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Document Group: 29-1872-0
Issue Date: 05/08/17
Version Number: 2.01
Supercedes Date: 10/13/15

Product identifier
3M™ Scotch-Weld Epoxy Adhesive 2216 B/A Gray

ID Number(s):
FS-9100-5200-0

Recommended use
Adhesive

Supplier's details

MANUFACTURER: 3M
DIVISION: Automotive and Aerospace Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:
29-0876-2, 29-0880-4

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SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A Gray, Part A

Product Identification Numbers
LC-B100-0892-6

1.2. Recommended use and restrictions on use

Recommended use
Accelerator for two component adhesive

1.3. Supplier’s details
MANUFACTURER: 3M
DIVISION: Automotive and Aerospace Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion | Exclamation mark | Health Hazard |
Pictograms

Hazard Statements
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
Immediately call a POISON CENTER or doctor/physician.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF exposed or concerned: Get medical advice/attention.

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

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Supplemental Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>68911-25-1</td>
<td>40 - 60 Trade Secret *</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>1332-58-7</td>
<td>30 - 50 Trade Secret *</td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>4246-51-9</td>
<td>7 - 13 Trade Secret *</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>&lt; 1 Trade Secret *</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>&lt; 0.75 Trade Secret *</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amine Compounds</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Oxides of Nitrogen</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Toxic Vapor, Gas, Particulate</td>
<td>During Combustion</td>
</tr>
</tbody>
</table>

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation.
to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>ACGIH</td>
<td>TWA:20 ppm</td>
<td>A4: Not class. as human carcin</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>OSHA</td>
<td>TWA:200 ppm;CEIL:300 ppm</td>
<td></td>
</tr>
<tr>
<td>DUST, INERT OR NUISANCE</td>
<td>1332-58-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m3;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3);TWA(respirable fraction):5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>KAOLIN</td>
<td>1332-58-7</td>
<td>ACGIH</td>
<td>TWA(respirable fraction):2 mg/m3</td>
<td>A4: Not class. as human carcin</td>
</tr>
<tr>
<td>KAOLIN, TOTAL DUST</td>
<td>1332-58-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>1333-86-4</td>
<td>ACGIH</td>
<td>TWA(inhalable fraction):3</td>
<td>A3: Confirmed animal</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
- Full Face Shield
- Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
- Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Appearance
  Physical state       Liquid
  Color               Gray

Odor                   Pungent Odor
Odor threshold         No Data Available
pH                     No Data Available
Melting point          Not Applicable
Boiling Point          >=306 ºF
Flash Point            >=305 ºF [Test Method: Closed Cup]
Evaporation rate       No Data Available
Flammability (solid, gas) Not Applicable
Flammable Limits(LEL)  No Data Available
Flammable Limits(UEL)  No Data Available
Vapor Pressure         <=27 psia [@ 131 ºF]
Vapor Density          No Data Available
Specific Gravity       1.26  [Ref Std: WATER=1]
Solubility in Water    Nil
Solubility- non-water  No Data Available
Partition coefficient: n-octanol/ water No Data Available
Autoignition temperature No Data Available
Decomposition temperature No Data Available
Viscosity              40,000 - 80,000 centipoise
Molecular weight       No Data Available
Volatile Organic Compounds Approximately 43 g/l [Test Method: tested per EPA method 24A]
Percent volatile       Negligible
VOC Less H2O & Exempt Solvents Approximately 32 g/l [Test Method: tested per EPA method 24A]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td></td>
</tr>
</tbody>
</table>

Refer to section 5.2 for hazardous decomposition products during combustion.
SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:
May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Class Description</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK</td>
<td>1333-86-4</td>
<td>Grp. 2B: Possible human carc.</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>Grp. 2B: Possible human carc.</td>
<td>International Agency for Research on Cancer</td>
</tr>
</tbody>
</table>

Additional Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or
the data are not sufficient for classification.

### Acute Toxicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Dermal</td>
<td></td>
<td>No data available; calculated ATE &gt;5,000 mg/kg</td>
</tr>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td></td>
<td>No data available; calculated ATE 2,000 - 5,000 mg/kg</td>
</tr>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Dermal</td>
<td></td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Ingestion</td>
<td>Human</td>
<td>LD50 &gt; 15,000 mg/kg</td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 2,500 mg/kg</td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 3,160 mg/kg</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 12,000 mg/kg</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 5,550 mg/kg</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 3,000 mg/kg</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 8,000 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>Rat</td>
<td>Irritant</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Professional judgeme nt</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>Rabbit</td>
<td>Corrosive</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Rabbit</td>
<td>Irritant</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

### Serious Eye Damage/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>In vitro data</td>
<td>Severe irritant</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Professio nal judgeme nt</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>similar health hazards</td>
<td>Corrosive</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Rabbit</td>
<td>Moderate irritant</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

### Skin Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMER DIAMINE</td>
<td>Guinea pig</td>
<td>Sensitizing</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Human and animal</td>
<td>Not classified</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Guinea</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
### Respiratory Sensitization
For the component/components, either no data are currently available or the data are not sufficient for classification.

### Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMERIC DIAMINE</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

### Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>Multiple animal species</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Ingestion</td>
<td>Multiple animal species</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>Rat</td>
<td>Carcinogenic</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Dermal</td>
<td>Mouse</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>Mouse</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Dermal</td>
<td>Mouse</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Ingestion</td>
<td>Mouse</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Inhalation</td>
<td>Rat</td>
<td>Carcinogenic</td>
</tr>
</tbody>
</table>

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>Not classified for female reproduction</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>occupational exposure</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>Not classified for male reproduction</td>
<td>Rat</td>
<td>NOAEL 2.3 mg/l</td>
<td>1 generation</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>Toxic to development</td>
<td>Rat</td>
<td>LOAEL 520 mg/kg/day</td>
<td>during gestation</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>Toxic to development</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>poisoning and/or abuse</td>
</tr>
</tbody>
</table>

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYMERIC DIAMINE</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>similar health hazards</td>
<td>Irritation Positive</td>
<td></td>
</tr>
<tr>
<td>ALIPHATIC POLYMERIC DIAMINE</td>
<td>Ingestion</td>
<td>central nervous system depression</td>
<td>May cause drowsiness or dizziness</td>
<td>Rat</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>NOAEL Not available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TOLUENE  
**Inhalation**  
central nervous system depression  
May cause drowsiness or dizziness  
Human  
NOAEL Not available

TOLUENE  
**Inhalation**  
respiratory irritation  
Some positive data exist, but the data are not sufficient for classification  
Human  
NOAEL Not available

TOLUENE  
**Inhalation**  
immune system  
Not classified  
Mouse  
NOAEL 0.004 mg/l 3 hours

TOLUENE  
**Ingestion**  
central nervous system depression  
May cause drowsiness or dizziness  
Human  
NOAEL Not available  poisoning and/or abuse

---

**Specific Target Organ Toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>pneumoconiosis</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td>Human</td>
<td>NOAEL NA</td>
<td>occupational exposure</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>pulmonary fibrosis</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>respiratory system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>LOAEL 0.01 mg/l</td>
<td>2 years</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>pulmonary fibrosis</td>
<td>Not classified</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>poisoning and/or abuse</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>auditory system</td>
<td>eyes</td>
<td>olfactory system</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td>Human</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>nervous system</td>
<td>May cause damage to organs though prolonged or repeated exposure</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>poisoning and/or abuse</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>respiratory system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>LOAEL 2.3 mg/l</td>
<td>15 months</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>heart</td>
<td>liver</td>
<td>kidney and/or bladder</td>
<td>Not classified</td>
<td>Rat</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>endocrine system</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1.1 mg/l</td>
<td>4 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>immune system</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL Not available</td>
<td>20 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>bone, teeth, nails, and/or hair</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL 1.1 mg/l</td>
<td>8 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>hematopoietic system</td>
<td>vascular system</td>
<td>Not classified</td>
<td>Human</td>
<td>NOAEL Not available</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Inhalation</td>
<td>gastrointestinal tract</td>
<td>Not classified</td>
<td>Multiple animal species</td>
<td>NOAEL 11.3 mg/l</td>
<td>15 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>nervous system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>NOAEL 625 mg/kg/day</td>
<td>13 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>heart</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 2,500 mg/kg/day</td>
<td>13 weeks</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>liver</td>
<td>kidney and/or bladder</td>
<td>Not classified</td>
<td>Multiple animal species</td>
<td>NOAEL 2,500 mg/kg/day</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>hematopoietic system</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL 600 mg/kg/day</td>
<td>14 days</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>endocrine system</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL 105 mg/kg/day</td>
<td>28 days</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>Ingestion</td>
<td>immune system</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL 105 mg/kg/day</td>
<td>4 weeks</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>Inhalation</td>
<td>pneumoconiosis</td>
<td>Not classified</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>occupational exposure</td>
</tr>
</tbody>
</table>

---

**Aspiration Hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>Aspiration hazard</td>
</tr>
</tbody>
</table>
Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

<table>
<thead>
<tr>
<th>Physical Hazards</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td></td>
</tr>
</tbody>
</table>


Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Skin Corrosion or Irritation
Specific target organ toxicity (single or repeated exposure)

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 3 Flammability: 1 Instability: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group: 29-0876-2 Version Number: 5.02
Issue Date: 04/14/20 Supercedes Date: 04/08/20

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3M USA SDSs are available at www.3M.com
SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A Gray, Part B

Product Identification Numbers
LC-B100-0892-7

1.2. Recommended use and restrictions on use

Recommended use
Base for two-component adhesive

1.3. Supplier’s details
MANUFACTURER: 3M
DIVISION: Automotive and Aerospace Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |
Hazard Statements
Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statements

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES:  Rinse cautiously with water for several minutes.  Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists:  Get medical advice/attention.
IF ON SKIN:  Wash with plenty of soap and water.
If skin irritation or rash occurs:  Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>25068-38-6</td>
<td>50 - 60</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>1332-58-7</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>1675-54-3</td>
<td>10 - 20</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>0.1 - 0.6</td>
</tr>
</tbody>
</table>

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air.  If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water.  Remove contaminated clothing and wash before reuse.  If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water.  Remove contact lenses if easy to do.  Continue rinsing.  If signs/symptoms persist, get medical attention.
If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldehydes</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Hydrocarbons</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Hydrogen Chloride</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Ketones</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Toxic Vapor, Gas, Particulate</td>
<td>During Combustion</td>
</tr>
</tbody>
</table>

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from oxidizing agents.

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUST, INERT OR NUISANCE</td>
<td>1332-58-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m3; TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3); TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3); TWA(respirable fraction):5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>KAOLIN</td>
<td>1332-58-7</td>
<td>ACGIH</td>
<td>TWA(respirable fraction):2 mg/m3</td>
<td>A4: Not class. as human carcin</td>
</tr>
<tr>
<td>KAOLIN, TOTAL DUST</td>
<td>1332-58-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m3; TWA(respirable fraction):5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>ACGIH</td>
<td>TWA:10 mg/m3</td>
<td>A4: Not class. as human carcin</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide appropriate local exhaust when product is heated. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining.

8.2.2. Personal protective equipment (PPE)

**Eye/face protection**
Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face
protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

**Respiratory protection**
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

**Thermal hazards**
Wear heat insulating gloves when handling hot material to prevent thermal burns.

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**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Off-White</td>
</tr>
<tr>
<td>Color</td>
<td>Off-White</td>
</tr>
</tbody>
</table>

| Odor | Slight Epoxy |
| Odor threshold | No Data Available |
| pH | Not Applicable |
| Melting point | No Data Available |
| Boiling Point | >=500 °F |
| Flash Point | >=480 °F [Test Method: Closed Cup] |
| Evaporation rate | Not Applicable |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |
| Vapor Pressure | <=27 psia [@ 131 °F] |
| Vapor Density | No Data Available |
| Density | 1.33 g/ml |
| Specific Gravity | 1.33 [Ref Std: WATER=1] |
| Solubility in Water | Nil |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | 75,000 - 150,000 centipoise |
| Molecular weight | No Data Available |
### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

#### 10.2. Chemical stability
Stable.

#### 10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

#### 10.5. Incompatible materials
- Strong acids
- Strong oxidizing agents

#### 10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td></td>
</tr>
</tbody>
</table>

Refer to section 5.2 for hazardous decomposition products during combustion.

### SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

#### 11.1. Information on Toxicological effects

**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

**Inhalation:**
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Carcinogenicity:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Class Description</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>Grp. 2B: Possible human carc.</td>
<td>International Agency for Research on Cancer</td>
</tr>
</tbody>
</table>

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td>No data available; calculated ATE &gt;5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 &gt; 1,600 mg/kg</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 1,000 mg/kg</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Dermal</td>
<td>Human</td>
<td>LD50 &gt; 15,000 mg/kg</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 &gt; 1,600 mg/kg</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 1,000 mg/kg</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation-Dust/Mist (4 hours)</td>
<td>Rat</td>
<td>LC50 &gt; 6.82 mg/l</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Rabbit</td>
<td>Mild irritant</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Professio nal judgemen t</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Rabbit</td>
<td>Mild irritant</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

**Serious Eye Damage/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Rabbit</td>
<td>Moderate irritant</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Professio nal judgemen t</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Rabbit</td>
<td>Moderate irritant</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

**Skin Sensitization**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Human and animal</td>
<td>Sensitizing</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Human and animal</td>
<td>Sensitizing</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Human</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
### Respiratory Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Human</td>
<td>Not classified</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Human</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>In Vitro</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>In Vitro</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

### Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Dermal</td>
<td>Mouse</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>Multiple animal species</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Dermal</td>
<td>Mouse</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Ingestion</td>
<td>Multiple animal species</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>Rat</td>
<td>Carcinogenic</td>
</tr>
</tbody>
</table>

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Ingestion</td>
<td>Not classified for female reproduction</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Ingestion</td>
<td>Not classified for male reproduction</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Dermal</td>
<td>Not classified for development</td>
<td>Rabbit</td>
<td>NOAEL 300 mg/kg/day</td>
<td>during organogenesis</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohyrin polymer</td>
<td>Ingestion</td>
<td>Not classified for development</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>Not classified for female reproduction</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>Not classified for male reproduction</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>Not classified for development</td>
<td>Rabbit</td>
<td>NOAEL 300 mg/kg/day</td>
<td>during organogenesis</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Dermal</td>
<td>Not classified for development</td>
<td>Rabbit</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>Not classified for development</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>2 generation</td>
</tr>
</tbody>
</table>

### Target Organ(s)

#### Specific Target Organ Toxicity - single exposure

For the component/components, either no data are currently available or the data are not sufficient for classification.
Specific Target Organ Toxicity - repeated exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Dermal</td>
<td>liver</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>2 years</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Dermal</td>
<td>nervous system</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>13 weeks</td>
</tr>
<tr>
<td>4,4’-isopropylidenediphenol-epichlorohydrin polymer</td>
<td>Ingestion</td>
<td>auditory system</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>28 days</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>pneumoconiosis</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td>Human</td>
<td>NOAEL NA</td>
<td>occupational exposure</td>
</tr>
<tr>
<td>KAOLIN</td>
<td>Inhalation</td>
<td>pulmonary fibrosis</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Dermal</td>
<td>liver</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>2 years</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Dermal</td>
<td>nervous system</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>13 weeks</td>
</tr>
<tr>
<td>Bisphenol A Diglycidyl Ether</td>
<td>Ingestion</td>
<td>auditory system</td>
<td>Not classified</td>
<td>Rat</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>28 days</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>respiratory system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>LOAEL 0.01 mg/l</td>
<td>2 years</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>Inhalation</td>
<td>pulmonary fibrosis</td>
<td>Not classified</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td>occupational exposure</td>
</tr>
</tbody>
</table>

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information
Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information
Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/container in accordance with the local/regional/national/international regulations.
Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

### SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

### SECTION 15: Regulatory information

#### 15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

<table>
<thead>
<tr>
<th>Physical Hazards</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>Respiratory or Skin Sensitization, Serious eye damage or eye irritation</td>
</tr>
</tbody>
</table>

#### 15.2. State Regulations
Contact 3M for more information.

#### 15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

#### 15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### SECTION 16: Other information

**NFPA Hazard Classification**

- **Health:** 2  
- **Flammability:** 1  
- **Instability:** 1  
- **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include...
the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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