Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M(tm) Scotch-Weld(tm) Structural Void Filling Compound EC-3460 HT/FST

1.2. Recommended use and restrictions on use

Recommended use
Structural Void Filling Compound, Industrial use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M France 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)

Industrial

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 1.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Germ Cell Mutagenicity: Category 2.
Reproductive Toxicity: Category 2.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion |Health Hazard |

Pictograms



Hazard Statements

Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of damaging 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.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, eye protection, and face protection.
In case of inadequate ventilation wear respiratory protection.

Response:
IF ON SKIN: Wash with plenty of soap and water.
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 exposed or concerned: Immediately call a POISON CENTER or doctor.
If experiencing respiratory symptoms or if skin irritation or rash occurs: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash it before reuse.

Storage:
Store locked up.

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

59% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
HEXAHYDROPHTHALIC ANHYDRIDE	85-42-7	2.9 - 30
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	25550-51-0	10 - 30 Trade Secret *
Oxide glass chemicals	65997-17-3	10 - 30
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	28064-14-4	10 - 30 Trade Secret *
Alumina Trihydrate	21645-51-2	10 - 20
Bisphenol A Diglycidyl Ether	1675-54-3	1 - 5 Trade Secret *
Zinc Borate 2335	138265-88-0	1 - 5 Trade Secret *
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	34090-76-1	< 4.5
Red Phosphorus	7723-14-0	1 - 3

Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	1 - 3
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	34762-90-8	0.1 - 1 Trade Secret *

*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:
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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.3. Special protective actions for fire-fighters
When fire fighting conditions are severe and total thermal decomposition of the product is possible, 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. 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.) Use personal protective equipment (gloves, respirators, etc.) as required.

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

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.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Inert or Nuisance Dust, Respirable fraction	21645-51-2	OSHA	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)	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	21645-51-2	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	21645-51-2	ACGIH	TWA(respirable particles):3 mg/m3	
Inert or Nuisance Dust, Respirable fraction	65997-17-3	OSHA	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)	
Oxide glass chemicals	65997-17-3	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	65997-17-3	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	65997-17-3	ACGIH	TWA(respirable particles):3 mg/m3	
Silica: Amorphous, including natural diatomaceous earth	67762-90-7	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
Red Phosphorus	7723-14-0	OSHA	TWA:0.1 mg/m3	
HEXAHYDROPHTHALIC ANHYDRIDE	85-42-7	ACGIH	CEIL(inhalable fraction and vapor):0.005 mg/m3	Respiratory Sensitizer

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.

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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Paste
Color	Brown
Odor	Characteristic Odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*No Data Available*
Flash Point	>=150 ºC
Evaporation rate	*Not Applicable*
Flammability	Not Applicable
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Relative Vapor Density	*Not Applicable*
Density	0.7 - 0.78 g/ml
Relative Density	0.7 - 0.78
Solubility in Water	*Not Applicable*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*
Particle Characteristics	*Not Applicable*

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

10.5. Incompatible materials
Amines
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

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:
May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. 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:
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. Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy 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:

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

Genotoxicity:
Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

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

Name	Route	Species	Value
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >5 - =12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
HEXAHYDROPHTHALIC ANHYDRIDE	Dermal	Rabbit	LD50 > 2,000 mg/kg
HEXAHYDROPHTHALIC ANHYDRIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.1 mg/l
HEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	Rat	LD50 2,700 mg/kg
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	Rat	LD50 > 2,000 mg/kg
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Dermal	similar compounds	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Dermal	Rabbit	LD50 > 6,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Ingestion	Rat	LD50 > 4,000 mg/kg
Oxide glass chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxide glass chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Alumina Trihydrate	Dermal		LD50 estimated to be > 5,000 mg/kg
Alumina Trihydrate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Alumina Trihydrate	Ingestion	Rat	LD50 > 5,000 mg/kg
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Dermal	Rat	LD50 > 2,000 mg/kg
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	Rat	LD50 > 2,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 5,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l
Zinc Borate 2335	Ingestion	Rat	LD50 > 5,000 mg/kg
Bisphenol A Diglycidyl Ether	Dermal	Rat	LD50 > 1,600 mg/kg
Bisphenol A Diglycidyl Ether	Ingestion	Rat	LD50 > 1,000 mg/kg
Red Phosphorus	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Red Phosphorus	Ingestion	Rat	LD50 > 15,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Dermal	Rat	LD50 > 2,870 mg/kg
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
HEXAHYDROPHTHALIC ANHYDRIDE	Rabbit	Minimal irritation
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Rabbit	Mild irritant
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Rabbit	Minimal irritation
Oxide glass chemicals	Professional judgement	No significant irritation
Alumina Trihydrate	Rabbit	No significant irritation
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Rabbit	Minimal irritation
Zinc Borate 2335	Rabbit	No significant irritation

Bisphenol A Diglycidyl Ether	Rabbit	Mild irritant
Red Phosphorus	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
HEXAHYDROPHTHALIC ANHYDRIDE	Rabbit	Corrosive
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	official classification	Corrosive
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Rabbit	Mild irritant
Oxide glass chemicals	Professional judgement	No significant irritation
Alumina Trihydrate	Rabbit	No significant irritation
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	official classification	Corrosive
Zinc Borate 2335	Rabbit	Severe irritant
Bisphenol A Diglycidyl Ether	Rabbit	Moderate irritant
Red Phosphorus	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
HEXAHYDROPHTHALIC ANHYDRIDE	Guinea pig	Sensitizing
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Human	Sensitizing
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Human and animal	Sensitizing
Alumina Trihydrate	Guinea pig	Not classified
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Human	Sensitizing
Zinc Borate 2335	Guinea pig	Not classified
Bisphenol A Diglycidyl Ether	Human and animal	Sensitizing
Red Phosphorus	Guinea pig	Not classified
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Mouse	Sensitizing

Respiratory Sensitization

Name	Species	Value
HEXAHYDROPHTHALIC ANHYDRIDE	Human	Sensitizing
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Human	Sensitizing
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Human	Sensitizing
Bisphenol A Diglycidyl Ether	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
HEXAHYDROPHTHALIC ANHYDRIDE	In Vitro	Not mutagenic
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	In Vitro	Not mutagenic

PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification
Oxide glass chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	In Vitro	Not mutagenic
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc Borate 2335	In vivo	Mutagenic
Bisphenol A Diglycidyl Ether	In vivo	Not mutagenic
Bisphenol A Diglycidyl Ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
Red Phosphorus	In Vitro	Not mutagenic
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Oxide glass chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Alumina Trihydrate	Not Specified	Multiple animal species	Not carcinogenic
Bisphenol A Diglycidyl Ether	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	premating into lactation
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg/day	42 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for development	Rat	NOAEL 460 mg/kg/day	during gestation
Alumina Trihydrate	Ingestion	Not classified for development	Rat	NOAEL 768 mg/kg/day	during organogenesis
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	49 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation

Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	Toxic to development	Rat	NOAEL 300 mg/kg/day	premating into lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
HEXAHYDROPHTHALIC ANHYDRIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Bisphenol A Diglycidyl Ether	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	heart	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	endocrine system	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	liver	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	immune system	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	nervous system	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	eyes	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
METHYLHEXAHYDROPHTHALIC ANHYDRIDE	Ingestion	respiratory system	Not classified	Rat	NOAEL 450 mg/kg/day	90 days
Oxide glass chemicals	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	endocrine system	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	38 days

4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 100 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	heart	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	immune system	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	nervous system	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	eyes	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
4-METHYLTETRAHYDROPHTHALIC ANHYDRIDE	Ingestion	respiratory system	Not classified	Rat	NOAEL 300 mg/kg/day	38 days
Zinc Borate 2335	Inhalation	immune system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	heart	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	liver	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	nervous system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	liver	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	heart	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	skin	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	immune system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	nervous system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	eyes	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	respiratory system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	vascular system	Not classified	Rat	NOAEL 375	92 days

					mg/kg/day	
Bisphenol A Diglycidyl Ether	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Bisphenol A Diglycidyl Ether	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Bisphenol A Diglycidyl Ether	Ingestion	auditory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	skin	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Ingestion	vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	43 days

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.

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:

Physical Hazards
Not Applicable.

Health Hazards

Germ cell mutagenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Zinc Borate 2335	138265-88-0	Trade Secret 1 - 5

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:** 0 **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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