



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

IDENTIFICATION

1.1. Product identifier

3M Aerospace Sealant AC-350 B-2

Product Identification Numbers

70-0052-0825-4

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use

Sealant.

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

30-3248-9, 30-2784-4

TRANSPORT INFORMATION

Air Transport (IATA)Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

Marine Transport (IMDG)

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

Environmental Hazards: Not applicable

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3M India SDSs are available at <http://solutions.3mindia.co.in>



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M Aerospace Sealant AC-350 B-2 Catalyst

1.2. Recommended use and restrictions on use

Recommended use

Hardener, For industrial or professional use only.

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Acute Toxicity (oral): Category 5.
Acute Toxicity (dermal): Category 5.
Serious Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Lactation.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements

Signal Word

DANGER!

Symbols

Exclamation mark | Health Hazard | Environment |

Pictograms



HAZARD STATEMENTS:

- H303 May be harmful if swallowed.
- H313 May be harmful in contact with skin.
- H319 Causes serious eye irritation.
- H315 Causes skin irritation.
- H362 May cause harm to breast-fed children.

- H372 Causes damage to organs through prolonged or repeated exposure:
nervous system
respiratory system

- H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

- P201 Obtain special instructions before use.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P263 Avoid contact during pregnancy/while nursing.
- P273 Avoid release to the environment.

Response:

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal:

- P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Wt
Manganese dioxide	1313-13-9	30 - 50
Terphenyl, hydrogenated	61788-32-7	30 - 45
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	0 - 10
Terphenyl	26140-60-3	0.5 - 5
Water	7732-18-5	0.5 - 5
Zeolites	1318-02-1	0.5 - 5
Natural Amorphous compounds	Trade Secret	0 - 5
Bis(piperidinothiocarbonyl) hexasulphide	971-15-3	0.1 - 2

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Sodium hydroxide	1310-73-2	< 2
Ferbam	14484-64-1	0.1 - 1
DISPERSING AGENT	68412-53-3	0.1 - 0.6
Lead	7439-92-1	< 0.1

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. Remove contact lenses if easy to do. Continue rinsing. 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

Substance

Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.
Oxides of Lead
Oxides of sulphur.

Condition

During combustion.
During combustion.
During combustion.
During combustion.
During combustion.

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

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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 dykes 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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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

Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids.

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	CAS Nbr	Agency	Limit type	Additional comments
Sodium hydroxide	1310-73-2	ACGIH	CEIL:2 mg/m ³	
Manganese, inorganic compounds	1313-13-9	ACGIH	TWA(as Mn, inhalable fraction):0.1 mg/m ³ ;TWA(as Mn, respirable fraction):0.02 mg/m ³	A4: Not class. as human carcin
Aluminum, insoluble compounds	1318-02-1	ACGIH	TWA(respirable fraction):1 mg/m ³	A4: Not class. as human carcin
Ferbam	14484-64-1	ACGIH	TWA(inhalable fraction):5 mg/m ³	A4: Not class. as human carcin
Terphenyl	26140-60-3	ACGIH	CEIL:5 mg/m ³	
Terphenyl, hydrogenated	61788-32-7	ACGIH	TWA:0.5 ppm	
Lead	7439-92-1	ACGIH	TWA(as Pb):0.05 mg/m ³	A3: Confirmed animal carcin.

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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/vapours/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:

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.

Gloves made from the following material(s) are recommended: Butyl rubber.

Neoprene.

Nitrile rubber.

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 vapours 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	Liquid.
Color	Dark Brown
Odor	Slight Odor
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	<i>No data available.</i>
Flash point	≥ 93.3 °C [Test Method:Closed Cup]
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour density	≥ 1 [Ref Std: AIR=1]
Density	1.58 g/ml
Relative density	≥ 1.58 [Ref Std: WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>

Molecular weight

No data available.

Volatile organic compounds (VOC)

0.9 g/l [*Test Method*:calculated SCAQMD rule 443.1]

VOC less H₂O & exempt solvents

1 g/l [*Test Method*:calculated SCAQMD rule 443.1]

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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong acids.

Reducing agents.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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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 labelling, 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

May be harmful in contact with skin.

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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Ingestion

May be harmful if swallowed.

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which may interfere with lactation or be harmful to breastfed children.

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	Dermal		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Manganese dioxide	Dermal	Rat	LD50 2,000 mg/kg
Manganese dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.5 mg/l
Manganese dioxide	Ingestion	Rat	LD50 > 2,197 mg/kg
Terphenyl, hydrogenated	Dermal	Rabbit	LD50 6,800 mg/kg
Terphenyl, hydrogenated	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 11.1 mg/l
Terphenyl, hydrogenated	Ingestion	Rat	LD50 > 10,000 mg/kg
Terphenyl	Dermal	Rabbit	LD50 > 5,000 mg/kg
Terphenyl	Inhalation-Dust/Mist (4 hours)	Rat	LD50 > 3.8 mg/l
Terphenyl	Ingestion	Rat	LD50 2,304 mg/kg
Zeolites	Dermal	Rabbit	LD50 > 2,000 mg/kg
Zeolites	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
Zeolites	Ingestion	Rat	LD50 > 5,000 mg/kg
Bis(piperidinothiocarbonyl) hexasulphide	Ingestion	Rat	LD50 > 5,000 mg/kg
DISPERSING AGENT	Ingestion	Rat	LD50 4,450
Ferbam	Dermal	Rabbit	LD50 > 4,000 mg/kg
Ferbam	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.4 mg/l
Ferbam	Ingestion	Rat	LD50 1,130 mg/kg
Lead	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Manganese dioxide	Rabbit	No significant irritation
Terphenyl, hydrogenated	Rabbit	No significant irritation

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Terphenyl	Rabbit	No significant irritation
Zeolites	Rabbit	No significant irritation
Sodium hydroxide	Rabbit	Corrosive
DISPERSING AGENT	Rabbit	Irritant
Ferbam	Rabbit	No significant irritation
Lead	similar compound	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Manganese dioxide	Rabbit	Mild irritant
Terphenyl, hydrogenated	Rabbit	No significant irritation
Terphenyl	Rabbit	No significant irritation
Zeolites	Rabbit	Mild irritant
Sodium hydroxide	Rabbit	Corrosive
DISPERSING AGENT	Rabbit	Corrosive
Ferbam	Rabbit	Severe irritant
Lead	similar compound	Mild irritant

Skin Sensitisation

Name	Species	Value
Manganese dioxide	Mouse	Not classified
Terphenyl, hydrogenated	Human	Not classified
Sodium hydroxide	Human	Not classified
DISPERSING AGENT	Human	Not classified
Ferbam	Guinea pig	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Manganese dioxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Manganese dioxide	In vivo	Some positive data exist, but the data are not sufficient for classification
Terphenyl, hydrogenated	In vivo	Not mutagenic
Terphenyl	In Vitro	Not mutagenic
Terphenyl	In vivo	Not mutagenic
Bis(piperidinothiocarbonyl) hexasulphide	In Vitro	Not mutagenic
Sodium hydroxide	In Vitro	Not mutagenic
DISPERSING AGENT	In Vitro	Not mutagenic
Lead	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Ferbam	Ingestion	Rat	Not carcinogenic
Lead	Not specified.	official classification	Carcinogenic.

Reproductive Toxicity**Reproductive and/or Developmental Effects**

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Name	Route	Value	Species	Test result	Exposure Duration
Manganese dioxide	Inhalation	Not classified for female reproduction	Rat	NOAEL 20 mg/m ³	2 generation
Manganese dioxide	Inhalation	Not classified for male reproduction	Rabbit	LOAEL 250 mg/kg	1 days
Manganese dioxide	Ingestion	Not classified for development	Rat	LOAEL 354 mg/kg/day	pre mating into lactation
Manganese dioxide	Inhalation	Not classified for development	Rat	LOAEL 61 mg/m ³	gestation into lactation
Terphenyl, hydrogenated	Ingestion	Not classified for female reproduction	Rat	NOAEL 81 mg/kg/day	2 generation
Terphenyl, hydrogenated	Ingestion	Not classified for male reproduction	Rat	NOAEL 62 mg/kg/day	2 generation
Terphenyl, hydrogenated	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	2 generation
Ferbam	Ingestion	Not classified for female reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
Ferbam	Ingestion	Not classified for male reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
Ferbam	Ingestion	Not classified for development	Rat	NOAEL 11 mg/kg/day	during organogenesis
Lead	Not specified.	Toxic to female reproduction	Human	LOAEL 10 ug/dl blood	
Lead	Not specified.	Toxic to male reproduction	Human	LOAEL 37 ug/dl blood	
Lead	Not specified.	Toxic to development	Human	NOAEL Not available	

Lactation

Name	Route	Species	Value
Ferbam	Ingestion	Rat	Causes effects on or via lactation

Target Organ(s)
Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Sodium hydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
Lead	Ingestion	nervous system	May cause damage to organs	Human	LOAEL 90 ug/dl blood	poisoning and/or abuse
Lead	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Manganese dioxide	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Monkey	LOAEL 1.1 mg/m ³	10 months
Manganese dioxide	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Terphenyl, hydrogenated	Inhalation	liver	Not classified	Rat	NOAEL 0.5 mg/l	90 days
Terphenyl, hydrogenated	Ingestion	endocrine system blood liver kidney and/or bladder	Not classified	Rat	NOAEL 144 mg/kg/day	14 weeks
Lead	Inhalation	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 60 ug/dl blood	occupational exposure
Lead	Inhalation	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 50 ug/dl blood	occupational exposure
Lead	Inhalation	nervous system	May cause damage to organs	Human	LOAEL 40	occupational

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			though prolonged or repeated exposure		ug/dl blood	exposure
Lead	Inhalation	gastrointestinal tract	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Lead	Inhalation	heart endocrine system immune system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Lead	Ingestion	bone, teeth, nails, and/or hair	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 20 ug/dl blood	3 months
Lead	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.5 mg/kg/day	20 days
Lead	Ingestion	hematopoietic system kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	environmental exposure
Lead	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 11 ug/dl blood	environmental exposure
Lead	Ingestion	auditory system heart endocrine system vascular system	Not classified	Human	NOAEL Not available	environmental exposure

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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Manganese dioxide	1313-13-9	Rainbow trout	Endpoint not reached	96 hours	LC50	>100 mg/l
Manganese dioxide	1313-13-9	Green algae	Experimental	72 hours	EC50	>100 mg/l
Manganese dioxide	1313-13-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Manganese dioxide	1313-13-9	Water flea	Experimental	8 days	NOEC	>100 mg/l

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Manganese dioxide	1313-13-9	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Terphenyl, hydrogenated	61788-32-7		Data not available or insufficient for classification			
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1		Data not available or insufficient for classification			
Terphenyl	26140-60-3	Water flea	Estimated	48 hours	EC50	0.022 mg/l
Terphenyl	26140-60-3	Rainbow trout	Experimental	96 hours	LC50	27 mg/l
Terphenyl	26140-60-3	Green Algae	Experimental	72 hours	EC50	0.102 mg/l
Terphenyl	26140-60-3	Green Algae	Experimental	72 hours	NOEC	0.003 mg/l
Terphenyl	26140-60-3	Water flea	Experimental	21 days	NOEC	0.005 mg/l
Terphenyl	26140-60-3	Fathead minnow	Experimental	34 days	NOEC	0.064 mg/l
Zeolites	1318-02-1	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Zeolites	1318-02-1	Green algae	Experimental	96 hours	EC50	>100 mg/l
Zeolites	1318-02-1	Water flea	Experimental	21 days	NOEC	>100 mg/l
Zeolites	1318-02-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Bis(piperidinot hiocarbonyl) hexasulphide	971-15-3	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Bis(piperidinot hiocarbonyl) hexasulphide	971-15-3	Green Algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Sodium hydroxide	1310-73-2		Data not available or insufficient for classification			
Ferbam	14484-64-1	Water flea	Experimental	48 hours	LC50	0.09 mg/l
Ferbam	14484-64-1	Green Algae	Experimental	96 hours	EC50	2.4 mg/l
Ferbam	14484-64-1	Guppy	Experimental	96 hours	LC50	0.09 mg/l
Ferbam	14484-64-1	Rainbow trout	Experimental	60 days	NOEC	0.00056 mg/l
DISPERSING AGENT	68412-53-3		Data not available or insufficient for classification			
Lead	7439-92-1	Water flea	Estimated	48 hours	LC50	0.026 mg/l
Lead	7439-92-1	Green Algae	Estimated	72 hours	EC50	0.0205 mg/l
Lead	7439-92-1	Fathead minnow	Experimental	96 hours	LC50	0.0408 mg/l
Lead	7439-92-1	Green Algae	Estimated	72 hours	Effect Concentration 10%	0.0061 mg/l
Lead	7439-92-1	Rainbow trout	Experimental	578 days	NOEC	0.003 mg/l
Lead	7439-92-1		Estimated	30 days	Effect Concentration 10%	0.0017 mg/l

12.2. Persistence and degradability

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Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Manganese dioxide	1313-13-9	Data not available-insufficient			N/A	
Terphenyl, hydrogenated	61788-32-7	Experimental Biodegradation	28 days	CO2 evolution	1 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	Data not available-insufficient			N/A	
Terphenyl	26140-60-3	Experimental Biodegradation	14 days	BOD	0.5 % BOD/ThBOD	OECD 301C - MITI test (I)
Zeolites	1318-02-1	Data not available-insufficient			N/A	
Bis(piperidinot hiocarbonyl) hexasulphide	971-15-3	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301F - Manometric respirometry
Sodium hydroxide	1310-73-2	Data not available-insufficient			N/A	
Ferbam	14484-64-1	Experimental Hydrolysis		Hydrolytic half-life	≤31 minutes (t 1/2)	
Ferbam	14484-64-1	Estimated Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
DISPERSING AGENT	68412-53-3	Data not available-insufficient			N/A	
Lead	7439-92-1	Data not available-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Manganese dioxide	1313-13-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Terphenyl, hydrogenated	61788-32-7	Estimated BCF - Bluegill	42 days	Bioaccumulation factor	5200	Other methods
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Terphenyl	26140-60-3	Estimated BCF-Carp	60 days	Bioaccumulation factor	2300	OECD 305E - Bioaccumulation flow-through fish test
Zeolites	1318-02-1	Data not available or insufficient for	N/A	N/A	N/A	N/A

3M Aerospace Sealant AC-350 B-2 Catalyst

		classification				
Bis(piperidinot hiocarbonyl) hexasulphide	971-15-3	Estimated Bioconcentrati on		Bioaccumulatio n factor	2.8	Estimated: Bioconcentration factor
Sodium hydroxide	1310-73-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ferbam	14484-64-1	Experimental Bioconcentrati on		Log Kow	-1.6	Other methods
DISPERSING AGENT	68412-53-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Lead	7439-92-1	Experimental BCF - Other	days	Bioaccumulatio n factor	1322	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

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 polymerised) material in a permitted industrial waste facility. 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**Air Transport (IATA)Regulations**

UN No UN3082

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(HYDROGENATED TERPHENYL)

Hazard Class/Division 9

Subsidiary Risk Not applicable

Packing Group: III

Marine Transport (IMDG)

UN No UN3082

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(HYDROGENATED TERPHENYL)

Hazard Class/Division 9

Subsidiary Risk Not applicable

Packing Group: III

Environmental Hazards: Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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.

Applicable Environmental, Health and Safety Regulations

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011
Central Motor Vehicle Rules, 1989

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

Lead
Sodium hydroxide

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:

The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **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.

Revision information:

No revision information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M India SDSs are available at <http://solutions.3mindia.co.in>



Safety Data Sheet

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Issue Date:	12/03/2020	Supersedes date:	Initial issue.

This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

1.2. Recommended use and restrictions on use

Recommended use

Sealant.

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Skin Sensitizer: Category 1.

2.2. Label elements

Signal Word

WARNING!

Symbols

Exclamation mark |

Pictograms



HAZARD STATEMENTS:

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:

P280E Wear protective gloves.

Response:

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Polysulfide rubber	68611-50-7	60 - 70
Calcium carbonate	471-34-1	10 - 20
Oxidised polyethylene	68441-17-8	10 - 15
Amorphous silica	67762-90-7	0.5 - 3
Titanium dioxide	13463-67-7	0.5 - 1.5
Epoxy resin	25085-99-8	0.1 - 0.5
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	0.1 - 0.5

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

<u>Substance</u>	<u>Condition</u>
Formaldehyde	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	During combustion.

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 dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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 breathing dust/fume/gas/mist/vapours/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.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases.

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	CAS Nbr	Agency	Limit type	Additional comments
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m ³	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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/vapours/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:

Safety glasses with side shields.

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 vapours 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

Liquid.

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

Specific Physical Form:	Paste
Color	White
Odor	Sulfuric
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	<i>Not applicable.</i>
Flash point	> 110 °C [Test Method:Closed Cup]
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Density	1.35 g/ml
Relative density	1.35 [Ref Std:WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Molecular weight	<i>Not applicable.</i>
Volatile organic compounds (VOC)	2.9 g/l [Test Method:calculated SCAQMD rule 443.1]
VOC less H2O & exempt solvents	2.9 g/l [Test Method:calculated SCAQMD rule 443.1]

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 polymerisation will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Strong acids.
Strong bases.
Reducing agents.

10.6 Hazardous decomposition products

Substance

None known.

Condition

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 labelling, 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

Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion

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

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Polysulfide rubber	Dermal	Rat	LD50 > 7,800 mg/kg
Polysulfide rubber	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Oxidised polyethylene	Ingestion	Rat	LD50 > 2,500 mg/kg
Amorphous silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Epoxy resin	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy resin	Ingestion	Rat	LD50 > 1,000 mg/kg
Formaldehyde, oligomeric reaction products with phenol	Dermal	Rat	LD50 > 2,000 mg/kg
Formaldehyde, oligomeric reaction products with phenol	Ingestion	Rat	LD50 > 2,900 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

Name	Species	Value
Polysulfide rubber	Rabbit	No significant irritation
Calcium carbonate	Rabbit	No significant irritation
Oxidised polyethylene	Professional judgement	No significant irritation
Amorphous silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Epoxy resin	Rabbit	Mild irritant
Formaldehyde, oligomeric reaction products with phenol	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Polysulfide rubber	Rabbit	No significant irritation
Calcium carbonate	Rabbit	No significant irritation
Oxidised polyethylene	Professional judgement	No significant irritation
Amorphous silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Epoxy resin	Rabbit	Moderate irritant
Formaldehyde, oligomeric reaction products with phenol	Human and animal	Moderate irritant

Skin Sensitisation

Name	Species	Value
Polysulfide rubber		Not classified
Amorphous silica	Human and animal	Not classified
Titanium dioxide	Human and animal	Not classified
Epoxy resin	Human and animal	Sensitising
Formaldehyde, oligomeric reaction products with phenol	Human and animal	Sensitising

Respiratory Sensitisation

Name	Species	Value
Epoxy resin	Human	Not classified
Formaldehyde, oligomeric reaction products with phenol	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Amorphous silica	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Epoxy resin	In vivo	Not mutagenic
Epoxy resin	In Vitro	Some positive data exist, but the data are not sufficient for classification

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

Carcinogenicity

Name	Route	Species	Value
Amorphous silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Epoxy resin	Dermal	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
Calcium carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	prematuring & during gestation
Amorphous silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Epoxy resin	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy resin	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Formaldehyde, oligomeric reaction products with phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Amorphous silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Epoxy resin	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy resin	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

Epoxy resin	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Formaldehyde, oligomeric reaction products with phenol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Polysulfide rubber	68611-50-7		Data not available or insufficient for classification			
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Oxidised polyethylene	68441-17-8		Data not available or insufficient for classification			
Amorphous silica	67762-90-7		Data not available or insufficient for classification			

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Epoxy resin	25085-99-8	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Epoxy resin	25085-99-8	Green Algae	Estimated	72 hours	EC50	>11 mg/l
Epoxy resin	25085-99-8	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Epoxy resin	25085-99-8	Green Algae	Estimated	72 hours	NOEC	4.2 mg/l
Epoxy resin	25085-99-8	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Formaldehyde, oligomeric reaction products with phenol	9003-35-4		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polysulfide rubber	68611-50-7	Data not available-insufficient			N/A	
Calcium carbonate	471-34-1	Data not available-insufficient			N/A	
Oxidised polyethylene	68441-17-8	Data not available-insufficient			N/A	
Amorphous silica	67762-90-7	Data not available-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not available-insufficient			N/A	
Epoxy resin	25085-99-8	Estimated Hydrolysis		Hydrolytic half-life	4.9 days (t 1/2)	Other methods
Epoxy resin	25085-99-8	Estimated Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	Estimated Biodegradation	28 days	BOD	3 % BOD/ThBOD	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polysulfide rubber	68611-50-7	Data not available or insufficient for	N/A	N/A	N/A	N/A

3M Aerospace Sealant AC-350 B-1/4, B-1/2, B-2, B-4, B-6, and B-12 Base

		classification				
Calcium carbonate	471-34-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Oxidised polyethylene	68441-17-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Amorphous silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Epoxy resin	25085-99-8	Estimated Bioconcentration		Log Kow	3.242	Other methods
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	Estimated Bioconcentration		Bioaccumulation factor	2.57	

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

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 polymerised) 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

Not hazardous for transportation.

Air Transport (IATA) Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

Marine Transport (IMDG)

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

Environmental Hazards: Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. 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.

Applicable Environmental, Health and Safety Regulations

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

Hazardous Waste(Management , Handling & Transboundary) Rules, 2008

Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **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.

Revision information:

No revision information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M India SDSs are available at <http://solutions.3mindia.co.in>