



Safety Data Sheet

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Document group:	25-9853-0	Version number:	3.00
Revision date:	07/01/2026	Supersedes date:	14/03/2025

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006) as amended by Regulation (EU) 2020/878

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Potting Compound/Adhesive 270 Black, Part A

Product Identification Numbers

62-3366-8530-0

7000046463

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

Identified uses

Structural adhesive.

1.3. Details of the supplier of the safety data sheet

Address: 3M Ireland Limited, 70 SIR JOHN ROGERSON'S QUAY, D02R296 DUBLIN 2
Telephone: +353 1 280 3555
E Mail: ner-productstewardship@mmm.com
Website: www.3M.com

1.4. Emergency telephone number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:

Acute Toxicity, Category 4 - Acute Tox. 4; H302

Acute Toxicity, Category 4 - Acute Tox. 4; H312
 Skin Corrosion/ Irritation, Category 1A - Skin Corr. 1A; H314
 Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
 Skin Sensitization, Category 1 - Skin Sens. 1; H317
 Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
 Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols

GHS05 (Corrosion) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Cashew, nutshell liq..	8007-24-7	232-355-4	15 - 40
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	229-962-1	< 25
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	224-207-2	5 - 10
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	202-013-9	3 - 7

HAZARD STATEMENTS:

H302 + H312	Harmful if swallowed or in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure: blood or blood-forming organs cardiovascular system endocrine system kidney/urinary tract liver musculoskeletal system.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTRE or doctor/physician.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

<=125 ml Precautionary statements

Prevention:

P260A Do not breathe vapours.
P280D Wear protective gloves, protective clothing, and eye/face protection.

Response:

Contains 4% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines. This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Filler	Trade Secret	15 - 40	Substance with a national occupational exposure limit
Cashew, nutshell liq..	(CAS-No.) 8007-24-7 (EC-No.) 232-355-4	15 - 40	Aquatic Chronic 3, H412 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	(CAS-No.) 6864-37-5 (EC-No.) 229-962-1 (REACH-No.) 01-2119497829-12	< 25	Acute Tox. 2, H330 Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1A, H314 Aquatic Chronic 2, H411 Eye Dam. 1, H318 STOT RE 2, H373
3,3'-	(CAS-No.) 4246-51-9	5 - 10	Skin Corr. 1B, H314

Oxybis(ethyleneoxy)bis(propylamine)	(EC-No.) 224-207-2		Eye Dam. 1, H318 Skin Sens. 1, H317
2,4,6-tris(dimethylaminomethyl)phenol	(CAS-No.) 90-72-2 (EC-No.) 202-013-9	3 - 7	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318
Silane, trimethoxyoctyl-, hydrolysis products with silica	(CAS-No.) 67762-90-7	1 - 5	Substance not classified as hazardous

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

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. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

The most important symptoms and effects based on the CLP classification include:

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Harmful in contact with skin. Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Harmful if swallowed. Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. 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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Amine compounds.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.

Toxic vapour, gas, particulate.

During combustion.

5.3. Advice for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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 vapours, 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. 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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. Do not breathe 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. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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
Filler	Trade Secret	Ireland OELs	TWA(Total inhalable dust)(8 hours):10 mg/m ³ ;TWA(as respirable dust)(8 hours):4 mg/m ³	

Ireland OELs : Ireland. OELs

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures:Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

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:

Full face shield.

Indirect vented goggles.

Applicable Norms/Standards

Use eye/face protection conforming to EN 16321

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:

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	0.7	=>8 hours
Neoprene.	0.5	=>8 hours
Nitrile rubber.	0.4	=>8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards

Use gloves tested to EN 374

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 vapours and particulates
Half facepiece or full facepiece supplied-air respirator

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

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136

Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Tan
Odor	Mild Amine, Pungent Odour
Odour threshold	No data available.
Melting point/freezing point	No data available.
Boiling point/boiling range	171.1 °C
Flammability	Not applicable.
Flammable Limits(LEL)	No data available.
Flammable Limits(UEL)	No data available.
Flash point	> 240 °C [Test Method:Closed Cup]
Autoignition temperature	No data available.
Decomposition temperature	No data available.
pH	substance/mixture is non-soluble (in water)
Kinematic Viscosity	15,000 mm ² /sec
Water solubility	Slight (less than 10%)
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	No data available.
Vapour pressure	<=400 Pa [Details:CONDITIONS: @ 86F (30C); 13.3mm Hg (@ 212F (100C).]
Density	1 g/ml
Relative density	1.22 [Ref Std:WATER=1]
Relative Vapour Density	3.72 [Details:Ref Std: Water=1]
Particle Characteristics	Not applicable.

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No data available.

Evaporation rate

No data available.

Molecular weight

No data available.

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

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

10.5 Incompatible materials

Strong acids.

Strong oxidising agents.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Harmful in contact with skin. Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

Ingestion

Harmful if swallowed.

Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and

diarrhea; blood in the faeces and/or vomitus may also be seen. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Muscular effects: Signs/symptoms may include generalised muscle weakness, paralysis and atrophy. Endocrine effects: Signs/symptoms may include disruption of gonadal, thyroid, adrenal, or pancreatic function, changes in hormone production, alterations in circulating hormone levels, and/or changes in tissue response to hormones. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Additional information:

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >1,000 - =2,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
Cashew, nutshell liq..	Dermal	Rat	LD50 > 2,000 mg/kg
Cashew, nutshell liq..	Ingestion	Rat	LD50 > 2,000 mg/kg
Filler	Dermal	Rat	LD50 > 2,000 mg/kg
Filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Filler	Ingestion	Rat	LD50 6,450 mg/kg
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Dermal	Rabbit	LD50 > 200 mg/kg
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.42 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Rat	LD50 > 320 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Dermal	Rabbit	LD50 2,525 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Rat	LD50 2,850 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Cashew, nutshell liq..	Rabbit	Irritant
Filler	Rabbit	No significant irritation
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
2,4,6-tris(dimethylaminomethyl)phenol	Rabbit	Corrosive
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Cashew, nutshell liq..	Rabbit	Corrosive
Filler	Rabbit	No significant irritation
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
2,4,6-tris(dimethylaminomethyl)phenol	Rabbit	Corrosive
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Cashew, nutshell liq..	Multiple animal species	Sensitising
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Guinea pig	Not classified
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Professional judgement	Sensitising
2,4,6-tris(dimethylaminomethyl)phenol	Guinea pig	Not classified
Silane, trimethoxyoctyl-, hydrolysis products with silica	Human and animal	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Cashew, nutshell liq..	In Vitro	Not mutagenic
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	In Vitro	Not mutagenic
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	In Vitro	Not mutagenic
2,4,6-tris(dimethylaminomethyl)phenol	In Vitro	Not mutagenic
Silane, trimethoxyoctyl-, hydrolysis products with silica	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Silane, trimethoxyoctyl-, hydrolysis 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
Cashew, nutshell liq..	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematting into lactation
Cashew, nutshell liq..	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Cashew, nutshell liq..	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematting into lactation
Filler	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	prematting & during gestation

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1.5 mg/kg/day	1 generation
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1.5 mg/kg/day	1 generation
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Not classified for development	Rat	NOAEL 45 mg/kg/day	during gestation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	premating into lactation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	59 days
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	premating into lactation
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Cashew, nutshell liq..	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Filler	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2,4,6-tris(dimethylaminomethyl)phenol	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
Cashew, nutshell liq..	Ingestion	hematopoietic system liver immune system respiratory system nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Filler	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	endocrine system hematopoietic system liver kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 0.048 mg/l	3 months
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	skin	Not classified	Human	NOAEL Not available	occupational exposure
2,2'-dimethyl-4,4'-	Inhalation	heart	Not classified	Rat	NOAEL	3 months

methylenebis(cyclohexylamine)		gastrointestinal tract bone, teeth, nails, and/or hair immune system muscles nervous system eyes vascular system			0.048 mg/l	
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	muscles	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 5 mg/kg/day	3 months
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	heart kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 2.5 mg/kg/day	3 months
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	endocrine system hematopoietic system liver	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 12 mg/kg/day	3 months
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	gastrointestinal tract immune system nervous system eyes respiratory system	Not classified	Rat	NOAEL 5 mg/kg/day	3 months
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	gastrointestinal tract heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 600 mg/kg/day	59 days
2,4,6-tris(dimethylaminomethyl)phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks
2,4,6-tris(dimethylaminomethyl)phenol	Dermal	liver nervous system auditory system hematopoietic system eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	heart endocrine system hematopoietic system liver muscles nervous system kidney and/or bladder respiratory system vascular system auditory system skin gastrointestinal tract bone, teeth, nails, and/or hair immune system eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Cashew, nutshell liq..	8007-24-7	Green algae	Experimental	72 hours	EL50	5.82 mg/l
Cashew, nutshell liq..	8007-24-7	Sheepshead Minnow	Experimental	96 hours	LL50	>1,000 mg/l
Cashew, nutshell liq..	8007-24-7	Water flea	Experimental	48 hours	EL50	40.46 mg/l
Cashew, nutshell liq..	8007-24-7	Green algae	Experimental	72 hours	NOEL	1 mg/l
Filler	Trade Secret	Green algae	Estimated	72 hours	EC50	>100 mg/l
Filler	Trade Secret	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Filler	Trade Secret	Water flea	Estimated	48 hours	EC50	>100 mg/l
Filler	Trade Secret	Green algae	Estimated	72 hours	EC10	>100 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Activated sludge	Experimental	30 minutes	EC20	160 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Bacteria	Experimental	17 hours	EC50	96 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green algae	Experimental	72 hours	ErC50	7.9 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Medaka	Experimental	96 hours	LC50	22 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	48 hours	EC50	4.6 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green algae	Experimental	72 hours	NOEC	0.13 mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	21 days	NOEC	4 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Bacteria	Experimental	17 hours	EC50	4,000 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Green algae	Experimental	72 hours	EC50	>500 mg/l

3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Water flea	Experimental	48 hours	EC50	218.16 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Green algae	Experimental	72 hours	EC10	5.4 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	N/A	Experimental	96 hours	LC50	718 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	46.7 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6.44 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Cashew, nutshell liq..	8007-24-7	Experimental Biodegradation	28 days	BOD	83.8 %BOD/ThOD	OECD 301F - Manometric respirometry
Filler	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	<1 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Experimental Biodegradation	25 days	CO2 evolution	-8 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Cashew, nutshell liq..	8007-24-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental BCF - Fish	60 days	Bioaccumulation factor	60	OECD305-Bioconcentration
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental Bioconcentration		Log Kow	2.51	OECD 107 log Kow shke flsk mtd

mine)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Experimental Bioconcentration		Log Kow	-1.25	
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	830.7550 Part.Coeff Shake Flask
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Cashew, nutshell liq..	8007-24-7	Modeled Mobility in Soil	Koc	3200-1800000 l/kg	ACD/Labs ChemSketch™
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Modeled Mobility in Soil	Koc	≤1.5	ACD/Labs ChemSketch™
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Modeled Mobility in Soil	Koc	1 l/kg	ACD/Labs ChemSketch™

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN2810	UN2810	UN2810
14.2 UN proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S.(4,4-METHYLENEBIS(2-METHYLCYCLOHEXYLAMINE))	TOXIC LIQUID, ORGANIC, N.O.S.(4,4-METHYLENEBIS(2-METHYLCYCLOHEXYLAMINE))	TOXIC LIQUID, ORGANIC, N.O.S.(4,4-METHYLENEBIS(2-METHYLCYCLOHEXYLAMINE); 4-NONYL PHENOL, BRANCHED)
14.3 Transport hazard class(es)	6.1	6.1	6.1
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	T1	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

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 material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. 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.

DIRECTIVE 2012/18/EU

Seveso hazard categories, Annex 1, Part 1

None

Seveso named dangerous substances, Annex 1, Part 2

None

Regulation (EU) No 649/2012

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H302 + H312	Harmful if swallowed or in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure: blood or blood-forming organs cardiovascular system endocrine system kidney/urinary tract liver musculoskeletal system.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Section 1: Address information was modified.

Section 1: E-mail address information was modified.

Section 2: <125ml Hazard - Environmental information was added.

Section 2: <125ml Hazard - Health information was modified.

Section 2: <125ml Precautionary - Prevention information was modified.

Section 2: <125ml Precautionary - Response information was modified.

CLP: Ingredient table information was modified.

Section 02: CLP Physical and Health Hazard Statements information was modified.

Label: CLP Classification information was modified.

Label: CLP Environmental Hazard Statements information was modified.

Label: CLP Percent Unknown information was added.

Label: CLP Percent Unknown information was deleted.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was modified.
Label: Graphic information was modified.
Section 2: Other hazards phrase information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 04: First Aid - Symptoms and Effects (CLP) information was modified.
Section 4: First aid for eye contact information information was modified.
Section 4: First aid for ingestion (swallowing) information information was modified.
Section 4: First aid for skin contact information information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Fire - Special hazards information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: glove data value information was added.
Section 8: glove data value information was modified.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was added.
Section 08: Personal Protection - Apron Statement information was added.
Section 8: Personal Protection - Skin/body information information was deleted.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Skin protection - protective clothing information information was deleted.
Section 8: STEL key information was added.
Section 8: TWA key information was added.
Section 9: Boiling point information information was modified.
Section 09: Color information was modified.
Section 9: Flash point information information was modified.
Section 09: Kinematic Viscosity information information was modified.
Section 9: Relative density information information was modified.
Section 9: Vapour density value information was modified.
Section 9: Vapour pressure value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Additional Information information was added.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Reproductive/developmental effects information information was deleted.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Endocrine disruptor table row information was deleted.
Section 12: Mobility in soil information information was modified.
Section 12: No endocrine disruptor information available warning information was added.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.
Section 15: Authorization status under REACH: SVHC Authorization ingredient information information was deleted.
Section 15: Seveso Hazard Category Text information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material.
information was modified.

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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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