



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

1.1. Product identifier

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Product identification numbers

GR-2000-9971-5

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

Identified uses

Coating.

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Indication of danger

Sensitizing; R43

Dangerous for the environment; R53

For full text of R phrases, see Section 16.

2.2. Label elements

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)**Symbol(s)**

Irritant

Contains:

Formaldehyde

Risk phrases

R43 May cause sensitisation by skin contact.
 R53 May cause long-term adverse effects in the aquatic environment.

Safety phrases

S24 Avoid contact with skin.
 S37 Wear suitable gloves.
 S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Notes on labelling

Nota L applied to CAS #64742-54-7.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Non-hazardous ingredients	Mixture		40 - 70	
Methylated melamine, formaldehyde polymer	68002-20-0		30 - 60	
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED	68071-45-4		10 - 30	R53 (Self Classified)
Zirconium Oxide	1314-23-4	EINECS 215-227-2	1 - 5	
Methanol	67-56-1	EINECS 200-659-6	1 - 5	F:R11; T:R23-24-25-39/23; T:R39/24; T:R39/25 (EU) Flam. Liq. 2, H225; Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 3, H301; STOT SE 1, H370 (CLP)
Synthetic amorphous silica, fumed, crystalline free	112945-52-5		1 - 5	
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	EINECS 204-809-1	< 1	R52/53 (Vendor) Xi:R41; R43 (Self Classified) Eye Dam. 1, H318; Skin Sens. 1B, H317; Aquatic Chronic 2, H411 (Self Classified)
Formaldehyde	50-00-0	EINECS 200-001-8	< 1	Carc.Cat.3:R40; T:R23-24-25; C:R34; R43 - Nota B,D (EU) Acute Tox. 2, H330; Acute Tox.

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

				3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Carc. 2, H351; STOT SE 3, H335 - Nota B,D (CLP)
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	EINECS 265-157-1	< 1	Nota L (EU) R66; R67 (Self Classified) Nota L (CLP) EUH066 (Self Classified)
1,2-Benzisothiazol-3(2H)-one	2634-33-5	EINECS 220-120-9	< 0.1	Xn:R22; Xi:R38-41; N:R50; R43 (EU) Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Acute 1, H400,M=10 (CLP) Aquatic Chronic 1, H410,M=10 (Self Classified)

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

Please refer to section 15 for the any applicable Notas that have been applied to the above components

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

Eye contact

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

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects

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

This product contains methanol. Methanol poisoning can cause metabolic acidosis, blindness, and death. Onset of signs or symptoms may be delayed for 18 to 24 hours. If methanol poisoning is confirmed, intravenous (IV) administration of ethanol should be considered. Additional pharmacologic and supportive care should be based on the treating physician's judgement. 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.

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

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 Fluoride	During combustion.

5.3. Advice for fire-fighters

When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, tunic and trousers (leggings), 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

Ventilate the area with fresh air. 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.

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 water. 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 or professional use only. Do not handle until all safety precautions have been read and understood. 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. Wash contaminated clothing before reuse. Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids.

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

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Silicon dioxide	112945-52-5	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m ³ ;TWA(as respirable dust):2.4 mg/m ³	
Carbonic Acid, Zirconium Complex	1314-23-4	Health and Safety Comm. (UK)	TWA(as Zr):5 mg/m ³ ;STEL(as Zr):10 mg/m ³	
Formaldehyde	50-00-0	Health and Safety Comm. (UK)	TWA:2.5 mg/m ³ (2 ppm);STEL:2.5 mg/m ³ (2 ppm)	
Methanol	67-56-1	Health and Safety Comm. (UK)	TWA:266 mg/m ³ (200 ppm);STEL:333 mg/m ³ (250 ppm)	Skin Notation

Health and Safety Comm. (UK) : UK Health and Safety Commission

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.

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 – Butyl 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:

Full facepiece air-purifying respirator suitable for formaldehyde

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

SECTION 9: Physical and chemical properties

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Faint acrylic odour; Clear white colour
Odour threshold	<i>No data available.</i>
pH	8
Boiling point/boiling range	≥ 100 °C
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	<i>Not applicable.</i>
Autoignition temperature	<i>Not applicable.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>No data available.</i>
Relative density	1.200 [Ref Std: WATER=1]
Water solubility	100 %
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1.2 g/ml

9.2. Other information

Volatile organic compounds (VOC)	20 g/l [Test Method: Estimated] [Details: EU definition (Part A and B mix)]
Percent volatile	32.83 % weight

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

Temperatures above the boiling point.

10.5 Incompatible materials

Strong acids.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

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. Allergic Respiratory Reaction in sensitive people: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause target organ effects after inhalation.

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. Vapours released during curing may cause eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:

May cause blindness.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
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3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Overall product	Dermal		Data not available or insufficient for classification; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		Data not available or insufficient for classification; calculated ATE >50 mg/l
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE >5,000 mg/kg
Methylated melamine, formaldehyde polymer	Dermal	Rabbit	LD50 > 5,000 mg/kg
Methylated melamine, formaldehyde polymer	Ingestion	Rat	LD50 5,400 mg/kg
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED			Data not available or insufficient for classification
Methanol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methanol	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Methanol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Synthetic amorphous silica, fumed, crystalline free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline free	Ingestion	Rat	LD50 > 5,110 mg/kg
Zirconium Oxide			Data not available or insufficient for classification
Formaldehyde	Dermal	Rabbit	LD50 270 mg/kg
Formaldehyde	Inhalation-Gas (4 hours)	Rat	LC50 470 ppm
Formaldehyde	Ingestion	Rat	LD50 800 mg/kg
Distillates (petroleum), hydrotreated heavy paraffinic	Dermal	Rabbit	LD50 > 5,000 mg/kg
Distillates (petroleum), hydrotreated heavy paraffinic	Ingestion	Rat	LD50 > 5,000 mg/kg
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Dermal	Rat	LD50 > 2,000 mg/kg
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Ingestion	Rat	LD50 > 500 mg/kg
1,2-Benzisothiazol-3(2H)-one			Data not available or insufficient for classification

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification
Methanol	Rabbit	Mild irritant
Synthetic amorphous silica, fumed, crystalline free	Rabbit	No significant irritation
Zirconium Oxide		Data not available or insufficient for classification
Formaldehyde	official classification	Corrosive
Distillates (petroleum), hydrotreated heavy paraffinic	Rabbit	Minimal irritation
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Rabbit	No significant irritation
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification

Serious Eye Damage/Irritation

Name	Species	Value
Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification
Methanol	Rabbit	Moderate irritant
Synthetic amorphous silica, fumed, crystalline free	Rabbit	No significant irritation
Zirconium Oxide		Data not available or insufficient for classification
Formaldehyde	official classification	Corrosive
Distillates (petroleum), hydrotreated heavy paraffinic	Rabbit	Mild irritant
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Rabbit	Corrosive
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification

Skin Sensitisation

Name	Species	Value
Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification
Methanol	Guinea pig	Not sensitizing

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Synthetic amorphous silica, fumed, crystalline free	Human and animal	Not sensitizing
Zirconium Oxide		Data not available or insufficient for classification
Formaldehyde	Guinea pig	Sensitising
Distillates (petroleum), hydrotreated heavy paraffinic	Guinea pig	Not sensitizing
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Mouse	Sensitising
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification

Respiratory Sensitisation

Name	Species	Value
Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification
Methanol		Data not available or insufficient for classification
Synthetic amorphous silica, fumed, crystalline free		Data not available or insufficient for classification
Zirconium Oxide		Data not available or insufficient for classification
Formaldehyde	Human	Some positive data exist, but the data are not sufficient for classification
Distillates (petroleum), hydrotreated heavy paraffinic		Data not available or insufficient for classification
2,4,7,9-tetramethyldec-5-yne-4,7-diol		Data not available or insufficient for classification
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification
Methanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methanol	In vivo	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline free	In Vitro	Not mutagenic
Zirconium Oxide		Data not available or insufficient for classification
Formaldehyde	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In vivo	Mutagenic
Distillates (petroleum), hydrotreated heavy paraffinic	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,4,7,9-tetramethyldec-5-yne-4,7-diol		Data not available or insufficient for classification
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification

Carcinogenicity

Name	Route	Species	Value
Methylated melamine, formaldehyde polymer			Data not available or insufficient for classification
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED			Data not available or insufficient for classification
Methanol	Inhalation	Multiple animal species	Not carcinogenic
Synthetic amorphous silica, fumed, crystalline free	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Zirconium Oxide			Data not available or insufficient for classification
Formaldehyde	Not specified.	Human and animal	Carcinogenic.
Distillates (petroleum), hydrotreated heavy paraffinic	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
2,4,7,9-tetramethyldec-5-yne-4,7-diol			Data not available or insufficient for classification
1,2-Benzisothiazol-3(2H)-one			Data not available or insufficient for classification

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

Name	Route	Value	Species	Test result	Exposure Duration
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3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Methylated melamine, formaldehyde polymer		Data not available or insufficient for classification			
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED		Data not available or insufficient for classification			
Methanol	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	21 days
Methanol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methanol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis
Synthetic amorphous silica, fumed, crystalline free	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline free	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline free	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Zirconium Oxide		Data not available or insufficient for classification			
Formaldehyde	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg	not applicable
Formaldehyde	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 10 ppm	during gestation
Distillates (petroleum), hydrotreated heavy paraffinic		Data not available or insufficient for classification			
2,4,7,9-tetramethyldec-5-yne-4,7-diol		Data not available or insufficient for classification			
1,2-Benzisothiazol-3(2H)-one		Data not available or insufficient for classification			

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Methylated melamine, formaldehyde polymer			Data not available or insufficient for classification			
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED			Data not available or insufficient for classification			
Methanol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Methanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methanol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Methanol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Synthetic amorphous silica, fumed, crystalline free			Data not available or insufficient for classification			
Zirconium Oxide			Data not available or insufficient for classification			
Formaldehyde	Inhalation	respiratory system	Causes damage to organs	Rat	LOAEL 128 ppm	6 hours
Formaldehyde	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Distillates (petroleum), hydrotreated heavy paraffinic	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

2,4,7,9-tetramethyldec-5-yne-4,7-diol			Data not available or insufficient for classification			
1,2-Benzisothiazol-3(2H)-one			Data not available or insufficient for classification			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Methylated melamine, formaldehyde polymer			Data not available or insufficient for classification			
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED			Data not available or insufficient for classification			
Methanol	Inhalation	liver	All data are negative	Rat	NOAEL 6.55 mg/l	4 weeks
Methanol	Inhalation	respiratory system	All data are negative	Rat	NOAEL 13.1 mg/l	6 weeks
Methanol	Ingestion	liver nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	90 days
Synthetic amorphous silica, fumed, crystalline free	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Zirconium Oxide			Data not available or insufficient for classification			
Formaldehyde	Dermal	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 80 mg/kg/day	60 weeks
Formaldehyde	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 ppm	28 months
Formaldehyde	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20 ppm	13 weeks
Formaldehyde	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 15 ppm	3 weeks
Formaldehyde	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 10 ppm	13 weeks
Formaldehyde	Inhalation	endocrine system immune system muscles kidney and/or bladder	All data are negative	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	eyes vascular system	All data are negative	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	heart	All data are negative	Mouse	NOAEL 14.3 ppm	2 years
Formaldehyde	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20 mg/kg/day	4 weeks
Formaldehyde	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 15 mg/kg/day	24 months
Formaldehyde	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	heart endocrine system hematopoietic system respiratory system vascular system	All data are negative	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	skin muscles eyes	All data are negative	Rat	NOAEL 109 mg/kg/day	2 years
Distillates (petroleum),	Inhalation	respiratory system	Some positive data exist, but the	Rat	NOAEL 0.21	28 days

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

hydrotreated heavy paraffinic			data are not sufficient for classification		mg/l	
2,4,7,9-tetramethyldec-5-yne-4,7-diol			Data not available or insufficient for classification			
1,2-Benzisothiazol-3(2H)-one			Data not available or insufficient for classification			

Aspiration Hazard

Name	Value
Methylated melamine, formaldehyde polymer	Not an aspiration hazard
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED	Not an aspiration hazard
Methanol	Not an aspiration hazard
Synthetic amorphous silica, fumed, crystalline free	Not an aspiration hazard
Zirconium Oxide	Not an aspiration hazard
Formaldehyde	Not an aspiration hazard
Distillates (petroleum), hydrotreated heavy paraffinic	Not an aspiration hazard
2,4,7,9-tetramethyldec-5-yne-4,7-diol	Not an aspiration hazard
1,2-Benzisothiazol-3(2H)-one	Not an aspiration hazard

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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Water flea	Experimental	48 hours	EC50	4.4 mg/l
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Algae	Experimental	72 hours	EC50	0.15 mg/l
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Rainbow trout	Experimental	96 hours	LC50	1.6 mg/l
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Crustacea	Experimental	48 hours	EC50	0.062 mg/l
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Fathead minnow	Experimental	96 hours	LC50	36 mg/l
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Water flea	Experimental	48 hours	EC50	88 mg/l
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Green algae	Experimental	72 hours	EC50	82 mg/l
Formaldehyde	50-00-0	Water flea	Experimental	48 hours	EC50	5.8 mg/l

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Formaldehyde	50-00-0	Rainbow trout	Experimental	96 hours	LC50	1.41 mg/l
Methanol	67-56-1	Algae or other aquatic plants	Experimental	96 hours	EC50	16.9 mg/l
Methanol	67-56-1	Water flea	Experimental	48 hours	EC50	22,200 mg/l
Methanol	67-56-1	Fathead minnow	Experimental	96 hours	LC50	22,300 mg/l
Synthetic amorphous silica, fumed, crystalline free	112945-52-5	Green algae	Analogous Compound	72 hours	EC50	440 mg/l
Synthetic amorphous silica, fumed, crystalline free	112945-52-5	Water flea	Analogous Compound	48 hours	EC50	7,600 mg/l
Synthetic amorphous silica, fumed, crystalline free	112945-52-5	Zebra Fish	Analogous Compound	96 hours	LC50	5,000 mg/l
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Green algae	Experimental	72 hours	NOEC	1 mg/l
Methanol	67-56-1	Algae or other aquatic plants	Experimental	96 hours	NOEC	9.96 mg/l
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7		Data not available or insufficient for classification			
Methylated melamine, formaldehyde polymer	68002-20-0		Data not available or insufficient for classification			
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED	68071-45-4		Data not available or insufficient for classification			
Zirconium Oxide	1314-23-4		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED	68071-45-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methylated	68002-20-0	Data not	N/A	N/A	N/A	N/A

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

melamine, formaldehyde polymer		available or insufficient for classification				
Zirconium Oxide	1314-23-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Synthetic amorphous silica, fumed, crystalline free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Experimental Biodegradation	28 days	CO2 evolution	5 % weight	OECD 301B - Modified sturm or CO2
Methanol	67-56-1	Experimental Biodegradation	14 days	BOD	92 % weight	OECD 301C - MITI test (I)
Formaldehyde	50-00-0	Experimental Biodegradation	28 days	BOD	90 % weight	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Zirconium Oxide	1314-23-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methylated melamine, formaldehyde polymer	68002-20-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
UREA, POLYMER WITH FORMALDEHYDE, METHYLATED	68071-45-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,4,7,9-tetramethyldec-5-yne-4,7-diol	126-86-3	Experimental Bioconcentration		Log Kow	2.8	Other methods
Synthetic amorphous silica, fumed, crystalline free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Distillates (petroleum), hydrotreated	64742-54-7	Data not available or insufficient for	N/A	N/A	N/A	N/A

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

heavy paraffinic		classification				
1,2-Benzisothiazol-3(2H)-one	2634-33-5	Experimental Bioconcentration		Log Kow	1.45	Other methods
Methanol	67-56-1	Experimental BCF-Carp	3 days	Bioaccumulation factor	1	Other methods
Formaldehyde	50-00-0	Experimental Bioconcentration		Log Kow	0.35	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

See Section 11.1 Information on toxicological effects

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. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transportation information

GR-2000-9971-5

Not hazardous for transportation

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
Formaldehyde	50-00-0	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
Formaldehyde	50-00-0	Carc.Cat.3	Regulation (EC) No. 1272/2008, Table 3.2
Formaldehyde	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
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.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H370	Causes damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R11	Highly flammable.
R22	Harmful if swallowed.
R23	Toxic by inhalation.
R24	Toxic in contact with skin.
R25	Toxic if swallowed.
R34	Causes burns.
R38	Irritating to skin.
R39/23	Toxic: danger of very serious irreversible effects through inhalation.
R39/24	Toxic: danger of very serious irreversible effects in contact with skin.
R39/25	Toxic: danger of very serious irreversible effects if swallowed.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Revision information:

Revision Changes:

Section 8: Eye/face protection information information was modified.
Section 8: Skin protection - recommended gloves information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Safety phrase information was modified.
Section 8: Personal Protection - Skin/body information information was modified.
Section 8: Skin protection - protective clothing information information was modified.
Section 1: Product identification numbers information was modified.
Section 16: List of relevant R phrase information information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 2: Indication of danger information information was modified.
Section 9: Flammability (solid, gas) information information was modified.
Section 16: Regulations - Inventories - EU ONLY information was modified.
Copyright information was modified.
Section 8: Occupational exposure limit table information was modified.
Aspiration Hazard Table information was modified.
Section 11: Acute Toxicity table information was modified.
Carcinogenicity Table information was modified.
Serious Eye Damage/Irritation Table information was modified.
Germ Cell Mutagenicity Table information was modified.
Skin Sensitisation Table information was modified.
Respiratory Sensitisation Table information was modified.
Reproductive Toxicity Table information was modified.
Skin Corrosion/Irritation Table information was modified.
Target Organs - Repeated Table information was modified.
Target Organs - Single Table information was modified.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release personal information information was modified.
Section 6: Accidental release environmental information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 4: First Aid - notes to physician (REACH/GHS) information was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.
Section 12: Component ecotoxicity information information was added.
Section 12: Persistence and Degradability information information was added.
Section 12: Biocumulative potential information information was added.
Section 12: Component Ecotoxicity table Material column header information was added.
Section 12: Component Ecotoxicity table CAS No column header information was added.
Section 12: Component Ecotoxicity table Organism column header information was added.
Section 12: Component Ecotoxicity table Type column header information was added.
Section 12: Component Ecotoxicity table Exposure column header information was added.
Section 12: Component Ecotoxicity table End point column header information was added.

3M Scotchkote Intumescent Coating LS4000, Clear (Part A)

Section 12: Component Ecotoxicity table Result column header information was added.
Section 12: Persistence and degradability table Material column header information was added.
Section 12: Persistence and degradability table CAS No column header information was added.
Section 12: Persistence and degradability table Test Type column header information was added.
Section 12: Persistence and degradability table Duration column header information was added.
Section 12: Persistence and degradability table Test Result column header information was added.
Section 12: Persistence and degradability table Protocol column header information was added.
Section 12: Biocumulative potential table Material column header information was added.
Section 12: Biocumulative potential table CAS No column header information was added.
Section 12: Biocumulative potential table CAS No column header information was added.
Section 12: Biocumulative potential table Test Result column header information was added.
Section 12: Biocumulative potential table Protocol column header information was added.
Section 12: Biocumulative potential table Test Type column header information was added.
Section 8: Personal Protection - Eye information information was added.
Section 8: Personal Protection - Respiratory Information information was added.
Section 10: Hazardous Decomposition Products information information was added.
Section 12: Persistence and degradability table Study Type column header information was added.
Section 12: Biocumulative potential table Test Type column header information was added.
Section 9: Odour Threshold information was added.
Section 9: Solubility (non-water) information was added.
Section 09: Decomposition Temperature information was added.
Section 11: Single exposure may cause: heading information was added.
Section 11: Single exposure may cause standard phrases information was added.
Section 10: Hazardous decomposition products during combustion text information was added.
Section 2: R phrase reference information was added.
Label: Graphic information was added.
Label: Graphic information was added.
Label: Graphic Text information was added.
Section 9: Flammability (solid, gas) information information was added.
Section 8: Eye/face protection text information was deleted.
Section 8: Respiratory protection - recommended respirators information was deleted.
Section 2: Symbol information was deleted.
Section 2: Symbols heading information was deleted.
Section 12: Chronic aquatic hazard heading information was deleted.
Section 12: Chronic aquatic hazard information information was deleted.
Prints No Data if Component ecotoxicity information is not present information was deleted.
Prints No Data if Persistence and Degradability information is not present information was deleted.
Prints No Data if Biocumulative potential information is not present information was deleted.
Section 8: mg/m³ key information was deleted.
Section 8: ppm key information was deleted.
Section 11: Health Effects - Other information information was deleted.

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 United Kingdom MSDSs are available at www.3M.com/uk