



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 Scotch-Weld(TM) Vinyl Adhesive 1099

Product Identification Numbers

FS-9100-0586-7	FS-9100-0589-1	FS-9100-0634-5	FS-9100-0699-8	FS-9100-2535-2
7000033731	7000079821	7000033732	7000079824	7000079905

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

Identified uses

Plastic adhesive.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
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

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Flammable Liquid, Category 2 - Flam. Liq. 2; H225
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
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:

GHS02 (Flame) | GHS07 (Exclamation mark) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Acetone	67-64-1	200-662-2	60 - 70

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261A	Avoid breathing vapours.

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.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Disposal:

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

Supplemental Hazard Statements:

EUH066	Repeated exposure may cause skin dryness or cracking.
EUH208	Contains Formaldehyde. May produce an allergic reaction.

Contains 8% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Acetone	67-64-1	200-662-2	01-2119471330-49	60 - 70	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066
Acrylonitrile - butadiene polymer	9003-18-3			10 - 20	Substance not classified as hazardous
Phenolic polymer	Trade Secret			5 - 10	Substance not classified as hazardous
Phenolic Resin	Trade Secret			5 - 10	Substance not classified as hazardous
Salicylic acid	69-72-7	200-712-3		1 - 2.5	Acute Tox. 4, H302; Eye Dam. 1, H318; Repr. 2, H361d
Zinc oxide	1314-13-2	215-222-5	01-2119463881-32	< 2	Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1
p-Tert-Butylphenol	98-54-4	202-679-0		< 1	Skin Irrit. 2, H315; Eye Dam. 1, H318; Repr. 2, H361f Aquatic Chronic 1, H410,M=1
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	270-128-1		< 0.5	Aquatic Acute 1, H400,M=1
Phenol	108-95-2	203-632-7		< 0.5	Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Muta. 2, H341; STOT RE 2, H373 Aquatic Chronic 2, H411
o-Cresol	95-48-7	202-423-8		< 0.3	Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314 - Nota C Aquatic Chronic 3, H412
Formaldehyde	50-00-0	200-001-8		< 0.1	Acute Tox. 2, H330; Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Muta. 2, H341; Carc. 1B, H350; STOT SE 3, H335 - Nota B,D

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 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. Extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide 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

Substance

Carbon monoxide.
Carbon dioxide.
Hydrogen cyanide.
Oxides of nitrogen.

Condition

During combustion.
During combustion.
During combustion.
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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. 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. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR-AFFF type foam is recommended. 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 using non-sparking tools. Place in a metal 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 handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Store away from heat. 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
Phenol	108-95-2	UK HSC	TWA:7.8 mg/m ³ (2 ppm);STEL:16 mg/m ³ (4 ppm)	SKIN
Formaldehyde	50-00-0	UK HSC	TWA:2.5 mg/m ³ (2 ppm);STEL:2.5 mg/m ³ (2 ppm)	
Acetone	67-64-1	UK HSC	TWA:1210 mg/m ³ (500 ppm);STEL:3620 mg/m ³ (1500 ppm)	

UK HSC : UK Health and Safety Commission

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.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
Zinc oxide		Worker	Dermal, Long-term exposure (8 hours), Local effects	622 mg/cm ²
Zinc oxide		Worker	Dermal, Short-term exposure, Local effects	6,223 mg/cm ²
Zinc oxide		Worker	Inhalation, Long-term exposure (8 hours), Local effects	1.2 mg/m ³
Zinc oxide		Worker	Inhalation, Short-term exposure, Local effects	6.2 mg/m ³
Zinc oxide		Worker	Oral, Short-term exposure, Local effects	62.2 mg/kg bw/d

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
Zinc oxide		Agricultural soil	44.3 mg/kg d.w.
Zinc oxide		Freshwater	0.0256 mg/l
Zinc oxide		Freshwater sediments	146 mg/kg d.w.
Zinc oxide		Marine water	0.0076 mg/l
Zinc oxide		Marine water sediments	70.3 mg/kg d.w.
Zinc oxide		Sewage Treatment Plant	0.0647 mg/l

8.2. Exposure controls

In addition, refer to the annex for more information.

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. Use explosion-proof ventilation 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.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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
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Butyl rubber.	No data available	No data available
Nitrile rubber.	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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 formaldehyde and particulates

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.

Applicable Norms/Standards

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

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

8.2.3. Environmental exposure controls

Refer to Annex

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Off-white, ketone odour
Odour threshold	No data available.
pH	No data available.
Boiling point/boiling range	56 °C [Details:Acetone value]
Melting point	No data available.
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	-18 °C [Details:Closed cup]
Autoignition temperature	No data available.
Flammable Limits(LEL)	2.1 % volume [Details:Acetone value LEL]
Flammable Limits(UEL)	13 % volume [Details:Acetone value UEL]
Vapour pressure	23,998 Pa
Relative density	0.87 - 0.9 [Ref Std:WATER=1]
Water solubility	No data available.
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	No data available.
Evaporation rate	1.9 [Ref Std:WATER=1]
Vapour density	2 [Ref Std:AIR=1]
Decomposition temperature	No data available.
Viscosity	1,500 - 5,000 mPa-s [Details:@ 26 °C]
Density	No data available.

9.2. Other information

EU Volatile Organic Compounds	No data available.
Molecular weight	No data available.
Percent volatile	62 - 67 %

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.

Sparks and/or flames.

10.5 Incompatible materials

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 3M assessments.

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

Mild Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced) in sensitive people: Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

Ingestion

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

3M Scotch-Weld(TM) Vinyl Adhesive 1099**Additional Health Effects:****Single exposure may cause target organ effects:**

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Reproductive/Developmental Toxicity:

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

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
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapour (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Acrylonitrile - butadiene polymer	Dermal	Rabbit	LD50 > 15,000 mg/kg
Acrylonitrile - butadiene polymer	Ingestion	Rat	LD50 > 30,000 mg/kg
Phenolic polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Phenolic polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Phenolic Resin	Dermal		LD50 estimated to be > 5,000 mg/kg
Phenolic Resin	Ingestion	Rat	LD50 5,660 mg/kg
Salicylic acid	Dermal	Rat	LD50 > 2,000 mg/kg
Salicylic acid	Ingestion	Rat	LD50 891 mg/kg
Zinc oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Zinc oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
p-Tert-Butylphenol	Dermal	Rabbit	LD50 2,318 mg/kg
p-Tert-Butylphenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.6 mg/l
p-Tert-Butylphenol	Ingestion	Rat	LD50 4,000 mg/kg
Phenol	Inhalation-Vapour		LC50 estimated to be 2 - 10 mg/l
Phenol	Dermal	Rat	LD50 670 mg/kg
Phenol	Ingestion	Rat	LD50 340 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Dermal	Rat	LD50 > 2,000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Ingestion	Rat	LD50 > 5,000 mg/kg
o-Cresol	Dermal	Rabbit	LD50 890 mg/kg
o-Cresol	Inhalation-Vapour (4 hours)	Rat	LC50 > 24.5 mg/l
o-Cresol	Ingestion	Rat	LD50 121 mg/kg
Formaldehyde	Dermal	Rabbit	LD50 270 mg/kg
Formaldehyde	Inhalation-Gas (4 hours)	Rat	LC50 470 ppm
Formaldehyde	Ingestion	Rat	LD50 800 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
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3M Scotch-Weld(TM) Vinyl Adhesive 1099

Acetone	Mouse	Minimal irritation
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Salicylic acid	Rabbit	No significant irritation
Zinc oxide	Human and animal	No significant irritation
p-Tert-Butylphenol	Rabbit	Irritant
Phenol	Rat	Corrosive
o-Cresol	Rabbit	Corrosive
Formaldehyde	official classification	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Acetone	Rabbit	Severe irritant
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Salicylic acid	Rabbit	Corrosive
Zinc oxide	Rabbit	Mild irritant
p-Tert-Butylphenol	Rabbit	Corrosive
Phenol	Rabbit	Corrosive
o-Cresol	Rabbit	Corrosive
Formaldehyde	official classification	Corrosive

Skin Sensitisation

Name	Species	Value
Phenolic Resin	Human	Some positive data exist, but the data are not sufficient for classification
Salicylic acid	Mouse	Not classified
Zinc oxide	Guinea pig	Not classified
p-Tert-Butylphenol	Human and animal	Not classified
Phenol	Guinea pig	Not classified
Formaldehyde	Guinea pig	Sensitising

Photosensitisation

Name	Species	Value
Salicylic acid	Mouse	Not sensitising

Respiratory Sensitisation

Name	Species	Value
Formaldehyde	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
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3M Scotch-Weld(TM) Vinyl Adhesive 1099

Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Salicylic acid	In Vitro	Not mutagenic
Salicylic acid	In vivo	Not mutagenic
Zinc oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
p-Tert-Butylphenol	In Vitro	Not mutagenic
Phenol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol	In vivo	Some positive data exist, but the data are not sufficient for classification
o-Cresol	In vivo	Not mutagenic
o-Cresol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not specified.	Multiple animal species	Not carcinogenic
p-Tert-Butylphenol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Phenol	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Phenol	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
o-Cresol	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
o-Cresol	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	Not specified.	Human and animal	Carcinogenic.

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

Name	Route	Value	Species	Test result	Exposure Duration
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
Salicylic acid	Ingestion	Toxic to development	Rat	NOAEL 75 mg/kg/day	during organogenesis
Zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
p-Tert-Butylphenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	Not classified for development	Rat	NOAEL 70 mg/kg/day	2 generation
Phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 321 mg/kg/day	2 generation

3M Scotch-Weld(TM) Vinyl Adhesive 1099

Phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 321 mg/kg/day	2 generation
Phenol	Ingestion	Not classified for development	Rat	NOAEL 120 mg/kg/day	during organogenesis
o-Cresol	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	2 generation
o-Cresol	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg/day	2 generation
o-Cresol	Ingestion	Not classified for development	Rat	NOAEL 175 mg/kg/day	2 generation
Formaldehyde	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg	not applicable
Formaldehyde	Inhalation	Not classified for development	Rat	NOAEL 10 ppm	during gestation

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
p-Tert-Butylphenol	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5.6 mg/l	4 hours
Phenol	Dermal	hematopoietic system	Causes damage to organs	Rat	LOAEL 108 mg/kg	not available
Phenol	Dermal	heart nervous system kidney and/or bladder	Causes damage to organs	Rat	LOAEL 107 mg/kg	24 hours
Phenol	Dermal	liver	Not classified	Human	NOAEL Not available	not available
Phenol	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	NOAEL Not available	not available
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs	Rat	NOAEL 120 mg/kg/day	not applicable
Phenol	Ingestion	respiratory system	Causes damage to organs	Human	NOAEL not available	poisoning and/or abuse
Phenol	Ingestion	endocrine system liver	Not classified	Rat	NOAEL 224 mg/kg	not applicable
Phenol	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse
o-Cresol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
o-Cresol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 68 mg/kg	
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	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Acetone	Dermal	eyes	Not classified	Guinea	NOAEL Not	3 weeks

3M Scotch-Weld(TM) Vinyl Adhesive 1099

				pig	available	
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Salicylic acid	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	3 days
Zinc oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc oxide	Ingestion	endocrine system hematopoietic system kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
p-Tert-Butylphenol	Ingestion	endocrine system liver kidney and/or bladder	Not classified	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	blood	Not classified	Rat	NOAEL 200 mg/kg	6 weeks
Phenol	Dermal	nervous system	May cause damage to organs though prolonged or repeated exposure	Rabbit	LOAEL 260 mg/kg/day	18 days
Phenol	Inhalation	heart liver kidney and/or bladder respiratory system	Causes damage to organs through prolonged or repeated exposure	Guinea pig	LOAEL 0.1 mg/l	41 days
Phenol	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Multiple animal species	LOAEL 0.1 mg/l	14 days
Phenol	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
Phenol	Inhalation	immune system	Not classified	Rat	NOAEL 0.1 mg/l	2 weeks
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 12 mg/kg/day	14 days
Phenol	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Mouse	LOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 308 mg/kg/day	13 weeks
Phenol	Ingestion	liver	Not classified	Rat	NOAEL 40 mg/kg/day	14 days
Phenol	Ingestion	respiratory system	Not classified	Rat	LOAEL 40 mg/kg/day	14 days

3M Scotch-Weld(TM) Vinyl Adhesive 1099

Phenol	Ingestion	immune system	Not classified	Mouse	NOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	endocrine system	Not classified	Rat	NOAEL 120 mg/kg/day	14 days
Phenol	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Multiple animal species	NOAEL 1,204 mg/kg/day	103 weeks
o-Cresol	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	90 days
o-Cresol	Ingestion	hematopoietic system liver immune system kidney and/or bladder	Not classified	Rat	NOAEL 2,024 mg/kg/day	90 days
Formaldehyde	Dermal	respiratory system	Not classified	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	Not classified	Rat	NOAEL 20 ppm	13 weeks
Formaldehyde	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 15 ppm	3 weeks
Formaldehyde	Inhalation	nervous system	Not classified	Mouse	NOAEL 10 ppm	13 weeks
Formaldehyde	Inhalation	endocrine system immune system muscles kidney and/or bladder	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 15 ppm	2 years
Formaldehyde	Inhalation	eyes vascular system	Not classified	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	heart	Not classified	Mouse	NOAEL 14.3 ppm	2 years
Formaldehyde	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	immune system	Not classified	Rat	NOAEL 20 mg/kg/day	4 weeks
Formaldehyde	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 15 mg/kg/day	24 months
Formaldehyde	Ingestion	nervous system	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	heart endocrine system hematopoietic system respiratory system vascular system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	skin muscles eyes	Not classified	Rat	NOAEL 109 mg/kg/day	2 years

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.

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.

3M Scotch-Weld(TM) Vinyl Adhesive 1099
12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Acetone	67-64-1	Algae other	Experimental	96 hours	EC50	11,493 mg/l
Acetone	67-64-1	Crustacea other	Experimental	24 hours	LC50	2,100 mg/l
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
Acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
Acrylonitrile - butadiene polymer	9003-18-3		Data not available or insufficient for classification			
Phenolic polymer	Trade Secret		Data not available or insufficient for classification			
Phenolic Resin	Trade Secret		Data not available or insufficient for classification			
Salicylic acid	69-72-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Salicylic acid	69-72-7	Ricefish	Experimental	96 hours	LC50	>100 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	48 hours	EC50	870 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	21 days	NOEC	10 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc oxide	1314-13-2	Crustacea other	Experimental	24 hours	LC50	0.24 mg/l
Zinc oxide	1314-13-2	Green Algae	Experimental	72 hours	EC50	0.057 mg/l
Zinc oxide	1314-13-2	Algae or other aquatic plants	Estimated	96 hours	Effect Concentration 10%	0.026 mg/l
Zinc oxide	1314-13-2	Crustacea other	Estimated	24 days	NOEC	0.007 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	30 days	NOEC	0.049 mg/l
p-Tert-Butylphenol	98-54-4	Crustacea other	Experimental	96 hours	LC50	1.9 mg/l
p-Tert-Butylphenol	98-54-4	Green Algae	Experimental	72 hours	EC50	14 mg/l
p-Tert-Butylphenol	98-54-4	Ricefish	Experimental	96 hours	LC50	5.1 mg/l
p-Tert-Butylphenol	98-54-4	Water flea	Experimental	48 hours	EC50	3.9 mg/l
p-Tert-Butylphenol	98-54-4	Fathead minnow	Experimental	128 days	NOEC	0.01 mg/l
p-Tert-Butylphenol	98-54-4	Green Algae	Experimental	72 hours	NOEC	0.32 mg/l
p-Tert-Butylphenol	98-54-4	Water flea	Experimental	21 days	NOEC	0.73 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	24 hours	EC50	0.82 mg/l
Benzenamine, N-phenyl-, reaction	68411-46-1	Zebra Fish	Experimental	96 hours	LC50	>71 mg/l

3M Scotch-Weld(TM) Vinyl Adhesive 1099

products with 2,4,4-trimethylpentene						
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Green algae	Experimental	72 hours	NOEC	>10 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	21 days	Effect Concentration 10%	1.69 mg/l
Phenol	108-95-2	Green algae	Experimental	96 hours	EC50	61.1 mg/l
Phenol	108-95-2	Rainbow trout	Experimental	96 hours	LC50	8.9 mg/l
Phenol	108-95-2	Water flea	Experimental	48 hours	EC50	3.1 mg/l
Phenol	108-95-2	Fish other	Experimental	60 days	NOEC	0.077 mg/l
Phenol	108-95-2	Water flea	Experimental	16 days	NOEC	0.16 mg/l
o-Cresol	95-48-7	Fish other	Experimental	96 hours	LC50	6.2 mg/l
o-Cresol	95-48-7	Green Algae	Experimental	96 hours	EC50	65 mg/l
o-Cresol	95-48-7	Water flea	Experimental	48 hours	LC50	9.6 mg/l
o-Cresol	95-48-7	Fathead minnow	Estimated	32 days	NOEC	1.35 mg/l
o-Cresol	95-48-7	Water flea	Estimated	21 days	NOEC	1 mg/l
o-Cresol	95-48-7	Algae	Experimental	96 hours	NOEC	40 mg/l
Formaldehyde	50-00-0	Fish other	Experimental	96 hours	LC50	6.7 mg/l
Formaldehyde	50-00-0	Green algae	Experimental	72 hours	EC50	4.89 mg/l
Formaldehyde	50-00-0	Water flea	Experimental	48 hours	EC50	5.8 mg/l
Formaldehyde	50-00-0	Ricefish	Experimental	28 days	NOEC	>=48 mg/l
Formaldehyde	50-00-0	Water flea	Experimental	21 days	NOEC	>=6.4 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	Other methods
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 % weight	OECD 301D - Closed bottle test
Acrylonitrile - butadiene polymer	9003-18-3	Data not availbl-insufficient			N/A	
Phenolic polymer	Trade Secret	Data not availbl-insufficient			N/A	
Phenolic Resin	Trade Secret	Data not availbl-insufficient			N/A	
Salicylic acid	69-72-7	Experimental Biodegradation	14 days	BOD	88.1 % BOD/ThBOD	OECD 301C - MITI test (I)
Zinc oxide	1314-13-2	Data not availbl-insufficient			N/A	
p-Tert-Butylphenol	98-54-4	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	98 % weight	Other methods
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Experimental Biodegradation	28 days	CO2 evolution	<=1 % weight	OECD 301B - Modified sturm or CO2
Phenol	108-95-2	Experimental	100 hours	BOD	62 %	OECD 301C - MITI test (I)

3M Scotch-Weld(TM) Vinyl Adhesive 1099

		Biodegradation			BOD/ThBOD	
o-Cresol	95-48-7	Experimental Biodegradation	20 days	BOD	86 % BOD/ThBOD	Other methods
Formaldehyde	50-00-0	Experimental Photolysis		Photolytic half-life(in water)	1-2 hours (t 1/2)	Other methods
Formaldehyde	50-00-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 % weight	OECD 301A - DOC Die Away Test

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	Other methods
Acrylonitrile - butadiene polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenolic polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenolic Resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Salicylic acid	69-72-7	Experimental Bioconcentration		Log Kow	2.26	Other methods
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
p-Tert-Butylphenol	98-54-4	Experimental BCF-Carp	56 days	Bioaccumulation factor	88	OECD 305E - Bioaccumulation flow-through fish test
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Estimated BCF-Carp	42 days	Bioaccumulation factor	1730	Other methods
Phenol	108-95-2	Experimental Bioconcentration		Log Kow	1.47	Other methods
o-Cresol	95-48-7	Experimental BCF - Other		Bioaccumulation factor	10.7	OECD 305E - Bioaccumulation flow-through fish test
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

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

12.6. Other adverse effects

Material	CAS Nbr	Ozone Depletion Potential	Global Warming Potential
acetone	67-64-1	0	

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

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

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal 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

3M Scotch-Weld(TM) Vinyl Adhesive 1099

& 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

FS-9100-0586-7, FS-9100-0699-8

ADR/RID: UN1133, ADHESIVES, 3., II , (D/E), ADR Classification Code: F1.

IMDG-CODE: UN1133, ADHESIVES, 3., II , IMDG-Code segregation code: NONE, EMS: FE,SD.

ICAO/IATA: UN1133, ADHESIVES, 3., II .

FS-9100-0589-1, FS-9100-0634-5, FS-9100-2535-2

ADR/RID: UN1133, ADHESIVES, LIMITED QUANTITY, 3., II , (E), ADR Classification Code: F1.

IMDG-CODE: UN1133, ADHESIVES, 3., II , IMDG-Code segregation code: NONE, LIMITED QUANTITY, EMS: FE,SD.

ICAO/IATA: UN1133, ADHESIVES, 3., II .

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
Formaldehyde	50-00-0	Carc. 1B	Regulation (EC) No. 1272/2008, Table 3.1
Formaldehyde	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Phenol	108-95-2	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status

Contact 3M for more 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.

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

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.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Formulation: Section 16: Annex information was modified.
 Industrial Use of Adhesives: Section 16: Annex information was added.
 Industrial Use of Coatings: Section 16: Annex information was deleted.
 Professional Use of Adhesives: Section 16: Annex information was added.
 Professional Use of Coatings: Section 16: Annex information was deleted.
 Section 3: Composition/ Information of ingredients table information was modified.
 Section 7: Precautions safe handling information information was modified.
 Section 8: DNEL table row information was modified.
 Section 8: PNEC table row information was modified.
 Section 12: Component ecotoxicity information information was modified.
 Section 12: Persistence and Degradability information information was modified.
 Section 12:Biocumulative potential information information was modified.
 Section 13: 13.1. Waste disposal note information was modified.
 Section 15: Regulations - Inventories information was modified.

Annex

1. Title	
Substance identification	Zinc oxide; EC No. 215-222-5; CAS Nbr 1314-13-2;
Exposure Scenario Name	Formulation
Lifecycle Stage	Formulation or re-packing
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

3M Scotch-Weld(TM) Vinyl Adhesive 1099

	PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 09 -Transfer of substance or mixture into small containers (dedicated filling line, including weighing) ERC 02 -Formulation into mixture
Processes, tasks and activities covered	Open sampling. Transfer of substance/mixture with dedicated engineering controls. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Continuous release; Frequency of exposure at workplace [for one worker]: 8 hours/day; Used amount or applied quantity per task/application by worker: 50 tonnes per year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: Goggles - Chemical resistant; Protective clothing / Wear suitable protective clothing; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.; Environmental: Waste Water treatment - Incineration;
Waste management measures	Do not release to waterways or sewers; Incinerate in a permitted hazardous waste incinerator; Send to a municipal sewage treatment plant;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Zinc oxide; EC No. 215-222-5; CAS Nbr 1314-13-2;
Exposure Scenario Name	Industrial Use of Adhesives
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 06d -Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
Processes, tasks and activities covered	Can be applied by rolling or spraying.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Continuous release; Frequency of exposure at workplace [for one worker]: 8 hours/day; Used amount or applied quantity per task/application by worker: 50 tonnes per year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health:

3M Scotch-Weld(TM) Vinyl Adhesive 1099

	Goggles - Chemical resistant; Protective clothing / Wear suitable protective clothing; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.; Environmental: None needed;
Waste management measures	Do not release to waterways or sewers; Incinerate in a permitted hazardous waste incinerator; Send to a municipal sewage treatment plant;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Zinc oxide; EC No. 215-222-5; CAS Nbr 1314-13-2;
Exposure Scenario Name	Professional Use of Adhesives
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying PROC 13 -Treatment of articles by dipping and pouring ERC 08c -Widespread use leading to inclusion into/onto article (indoor)
Processes, tasks and activities covered	Can be applied by rolling or spraying.
2. Operational conditions and risk management measures	
Operating Conditions	Physical state: Liquid. General operating conditions: Continuous release; Frequency of exposure at workplace [for one worker]: 8 hours/day; Used amount or applied quantity per task/application by worker: 50 tonnes per year;
Risk management measures	Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: Goggles - Chemical resistant; Protective clothing / Wear suitable protective clothing; Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Refer to Section 8 of the SDS for specific glove material.; Environmental: None needed;
Waste management measures	Do not release to waterways or sewers;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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

