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 1617 Zinc Spray

Product identification numbers

DE-9999-5337-0

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

Identified uses

A spray used as a protective film on primer on metal parts

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

Extremely flammable; F+; R12
Irritant; Xi; R36
Sensitizing; R43
R66
R67
Dangerous for the environment; N; R50/53

For full text of R phrases, see Section 16.

2.2. Label elements

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

Symbol(s)


Extremely Flammable


Irritant


Dangerous for the environment

Contains:

No ingredients are assigned to the label.

Risk phrases

R12	Extremely flammable.
R36	Irritating to eyes.
R43	May cause sensitisation by skin contact.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S16	Keep away from sources of ignition - No Smoking.
S23C	Do not breathe vapour or spray.
S51	Use only in well ventilated areas.
S24	Avoid contact with skin.
S37	Wear suitable gloves.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.
S2	Keep out of the reach of children.

Special provisions concerning the labelling of certain substances

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Notes on labelling
R65 is not required on the label because the product is an aerosol.

Nota P is applied for CAS#64742-95-6

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Zinc	7440-66-6	EINECS 231-175-3	20 - 50	F:R15-17; N:R50/53 (EU) Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=1 (CLP)

Acetone	67-64-1	EINECS 200-662-2	10 - 30	F:R11; Xi:R36; R66; R67 (EU) Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066 (CLP)
Butane	106-97-8	EINECS 203-448-7	15 30	F+:R12 - Nota C (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota C,U (CLP)
Propane	74-98-6	EINECS 200-827-9	5 - 10	F+:R12 (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota U (CLP)
Solvent naphtha (petroleum), light aromatic	64742-95-6	EINECS 265-199-0	5 - 10	Xn:R65 - Nota 4,P (EU) R10 (Vendor) Xi:R38; R67 (Self Classified) Asp. Tox. 1, H304 - Nota P (CLP) Flam. Liq. 3, H226 (Vendor) Skin Irrit. 2, H315 (Self Classified)
Xylene	1330-20-7	EINECS 215-535-7	5 - 10	Xn:R20-21; Xi:R38; R10 - Nota C (EU) Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315 - Nota C (CLP)
Zinc oxide	1314-13-2	EINECS 215-222-5	1 - 5	N:R50/53 (EU) Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=1 (CLP)
Bentone	None		<= 1	
2-Butanone oxime	96-29-7	EINECS 202-496-6	<= 1	Carc.Cat.3:R40; Xn:R21; Xi:R41; R43 (EU) R52/53 (Self Classified) Acute Tox. 4, H312; Eye Dam. 1, H318; Skin Sens. 1, H317; Carc. 2, H351 (CLP)

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. Get medical attention.

Skin contact

Wash with soap and water. 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
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

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	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of zinc.	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.

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.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) 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 toxic, corrosivity or flammability 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
Do not use in a confined area or areas with little or no air movement. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Vapours may travel long distances along the ground or floor to an ignition source and flash back.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. 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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Butane	106-97-8	Health and Safety Comm. (UK)	TWA:1450 mg/m³(600 ppm);STEL:1810 mg/m³(750 ppm)	
Xylene	1330-20-7	Health and Safety Comm. (UK)	TWA:220 mg/m3(50 ppm);STEL:441 mg/m3(100 ppm)	Skin Notation
Acetone	67-64-1	Health and Safety Comm. (UK)	TWA:1210 mg/m³(500 ppm);STEL:3620 mg/m³(1500 ppm)	
Propane	74-98-6	Health and Safety Comm. (UK)	Limit value not established:	asphyxiant

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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

Wear eye/face protection.
The following eye protection(s) are recommended: Indirect vented goggles.

Skin/hand protection

Wear protective gloves.
Gloves made from the following material(s) are recommended: Butyl rubber.
Polymer laminate

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates
Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Aerosol
Appearance/Odour	Grey, solvent odour.
Odour threshold	*No data available.*
pH	*No data available.*
Boiling point/boiling range	*No data available.*
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	-104 ºC [*Details:*Propellant's flash point]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative density	*No data available.*
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*

Density	0.95 g/cm3

9.2. Other information

Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Sparks and/or flames.
Temperatures above the boiling point.
High shear and high temperature conditions

10.5 Incompatible materials
Strong acids.
Explosive when mixed with oxidizing substances.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

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
Intentional concentration and inhalation may be harmful or fatal. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause target organ effects after inhalation.

Skin contact

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

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 target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.
Single exposure, above recommended guidelines, may cause:
Cardiac sensitisation: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.
Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE >5,000 mg/kg
Zinc	Dermal	Rabbit	LD50 > 5,000 mg/kg
Zinc	Inhalation-Dust/Mist	Rat	LC50 > 5.4 mg/l
Zinc	Ingestion	Rat	LD50 > 2,000 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Solvent naphtha (petroleum), light aromatic	Dermal	Rabbit	LD50 > 2,000 mg/kg
Xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Solvent naphtha (petroleum), light aromatic	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
Solvent naphtha (petroleum), light aromatic	Ingestion	Rat	LD50 > 5,000 mg/kg
Xylene	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Xylene	Ingestion	Rat	LD50 3,523 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
2-Butanone oxime	Dermal	Rabbit	LD50 > 1,000 mg/kg
2-Butanone oxime	Inhalation-Vapor	Rat	LC50 estimated to be 20 - 50 mg/l

2-Butanone oxime	Ingestion	Rat	LD50 2,300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc		Data not available or insufficient for classification
Acetone	Mouse	Minimal irritation
Butane		No significant irritation
Propane	Rabbit	Minimal irritation
Solvent naphtha (petroleum), light aromatic		Minimal irritation
Xylene	Rabbit	Mild irritant
Zinc oxide	Human and animal	No significant irritation
2-Butanone oxime		Data not available or insufficient for classification

Serious Eye Damage/Irritation

Name	Species	Value
Zinc		Data not available or insufficient for classification
Acetone	Rabbit	Severe irritant
Butane	Rabbit	No significant irritation
Propane	Rabbit	Mild irritant
Solvent naphtha (petroleum), light aromatic		Mild irritant
Xylene	Rabbit	Mild irritant
Zinc oxide	Rabbit	Mild irritant
2-Butanone oxime		Data not available or insufficient for classification

Skin Sensitisation

Name	Species	Value
Zinc		Data not available or insufficient for classification
Acetone		Data not available or insufficient for classification
Butane		Data not available or insufficient for classification
Propane		Data not available or insufficient for classification
Solvent naphtha (petroleum), light aromatic		Not sensitizing
Xylene		Data not available or insufficient for classification
Zinc oxide	Guinea pig	Some positive data exist, but the data are not sufficient for classification
2-Butanone oxime		Data not available or insufficient for classification

Respiratory Sensitisation

Name	Species	Value
Zinc		Data not available or insufficient for classification
Acetone		Data not available or insufficient for classification
Butane		Data not available or insufficient for classification
Propane		Data not available or insufficient for classification
Solvent naphtha (petroleum), light aromatic		Data not available or insufficient for classification

Xylene		Data not available or insufficient for classification
Zinc oxide		Data not available or insufficient for classification
2-Butanone oxime		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Zinc		Data not available or insufficient for classification
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Butane	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic
Solvent naphtha (petroleum), light aromatic	In Vitro	Some positive data exist, but the data are not sufficient for classification
Xylene	In Vitro	Not mutagenic
Xylene	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
2-Butanone oxime		Data not available or insufficient for classification

Carcinogenicity

Name	Route	Species	Value
Zinc			Data not available or insufficient for classification
Acetone	Not specified.	Multiple animal species	Not carcinogenic
Butane			Data not available or insufficient for classification
Propane			Data not available or insufficient for classification
Solvent naphtha (petroleum), light aromatic	Dermal		Not carcinogenic
Solvent naphtha (petroleum), light aromatic	Inhalation		Some positive data exist, but the data are not sufficient for classification
Xylene	Dermal	Rat	Not carcinogenic
Xylene	Ingestion	Multiple animal species	Not carcinogenic
Xylene	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Zinc oxide			Data not available or insufficient for classification
2-Butanone oxime			Data not available or insufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Zinc		Data not available or insufficient for classification			
Acetone	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298	13 weeks

				mg/kg/day	
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Butane		Data not available or insufficient for classification			
Propane		Data not available or insufficient for classification			
Solvent naphtha (petroleum), light aromatic	Inhalation	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL 500 ppm	
Xylene	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	during gestation
Zinc oxide	Ingestion	Some positive reproductive/developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
2-Butanone oxime		Data not available or insufficient for classification			

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Zinc			Data not available or insufficient for classification			
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	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Butane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Butane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Butane	Inhalation	heart	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 5,000 ppm	25 minutes
Butane	Inhalation	respiratory irritation	All data are negative	Rabbit	NOAEL Not available	
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL N/A	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

Solvent naphtha (petroleum), light aromatic	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Xylene	Inhalation	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL N/A	
Xylene	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg	not applicable
Zinc oxide			Data not available or insufficient for classification			
2-Butanone oxime			Data not available or insufficient for classification			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Zinc			Data not available or insufficient for classification			
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are	Rat	NOAEL 45 mg/l	8 weeks

			negative			
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Butane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,489 ppm	90 days
Butane	Inhalation	blood	All data are negative	Rat	NOAEL 4,489 ppm	90 days
Propane			Data not available or insufficient for classification			
Xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
Xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification		NOEL 12.6 mg/l	
Solvent naphtha	Inhalation	hematopoietic system | liver	Some positive data exist, but the		NOEL 0.9 mg/l	

(petroleum), light aromatic			data are not sufficient for classification			
Xylene	Inhalation	heart | endocrine system | hematopoietic system | muscles | kidney and/or bladder | respiratory system	All data are negative	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | respiratory system	All data are negative	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Zinc oxide	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	10 days
Zinc oxide	Ingestion	endocrine system | hematopoietic system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Other	NOAEL 500 mg/kg/day	6 months
2-Butanone oxime			Data not available or insufficient for classification			

Aspiration Hazard

Name	Value
Zinc	Not an aspiration hazard
Acetone	Not an aspiration hazard
Butane	Not an aspiration hazard
Propane	Not an aspiration hazard
Solvent naphtha (petroleum), light aromatic	Aspiration hazard
Xylene	Aspiration hazard
Zinc oxide	Not an aspiration hazard
2-Butanone oxime	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

Acute aquatic hazard:
GHS Acute 1: Very toxic to aquatic life.

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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Acetone	67-64-1	Water flea	Experimental	48 hours	EC50	13,500 mg/l
Acetone	67-64-1	Green Algae	Experimental	96 hours	EC50	2,574 mg/l
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
Butane	106-97-8		Data not available or insufficient for classification			
Solvent naphtha (petroleum), light aromatic	64742-95-6		Data not available or insufficient for classification			
2-Butanone oxime	96-29-7	Water flea	Experimental	48 hours	EC50	200 mg/l
2-Butanone oxime	96-29-7	Green algae	Experimental	72 hours	NOEC	2.6 mg/l
2-Butanone oxime	96-29-7	Water flea	Experimental	21 days	NOEC	>100 mg/l
2-Butanone oxime	96-29-7	Green algae	Experimental	72 hours	EC50	16 mg/l
Propane	74-98-6		Data not available or insufficient for classification			
Xylene	1330-20-7	Green algae	Experimental	72 hours	NOEC	0.73 mg/l
Xylene	1330-20-7	Water flea	Experimental	21 days	NOEC	0.41 mg/l
Xylene	1330-20-7	Green algae	Experimental	72 hours	EC50	0.8 mg/l
Xylene	1330-20-7	Water flea	Experimental	48 hours	EC50	1.1 mg/l
Xylene	1330-20-7	Rainbow trout	Experimental	96 hours	LC50	2.6 mg/l
Zinc	7440-66-6	Green Algae	Experimental	72 hours	EC50	0.106 mg/l
Zinc	7440-66-6	Chinook Salmon	Experimental	96 hours	LC50	0.182 mg/l

Zinc	7440-66-6	Rainbow trout	Experimental	30.44 days	NOEC	0.036 mg/l
Zinc	7440-66-6	Water flea	Experimental	48 hours	EC50	0.07 mg/l
Zinc oxide	1314-13-2	Green Algae	Experimental	72 hours	EC50	0.046 mg/l
Zinc oxide	1314-13-2	Water flea	Experimental	48 hours	EC50	3.2 mg/l
Zinc oxide	1314-13-2	Green Algae	Experimental	72 hours	NOEC	0.021 mg/l
Zinc oxide	1314-13-2	Chinook Salmon	Experimental	96 hours	LC50	0.23 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Estimated Photolysis		Photolytic half-life (in air)	80 days (t 1/2)	Other methods
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	146.5 days (t 1/2)	Other methods
Butane	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	6.3 days (t 1/2)	Other methods
Propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	Other methods
Xylene	1330-20-7	Laboratory Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	Other methods
2-Butanone oxime	96-29-7	Modeled Photolysis		Photolytic half-life (in air)	21.6 days (t 1/2)	Other methods
Zinc	7440-66-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Butanone oxime	96-29-7	Experimental Hydrolysis		Hydrolytic half-life	18 days (t 1/2)	Other methods
Butane	106-97-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Propane	74-98-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Zinc oxide	1314-13-2	Estimated Hydrolysis		Hydrolytic half-life	10 hours (t 1/2)	Other methods
Solvent naphtha (petroleum), light aromatic	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	96 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Propane	74-98-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Zinc	7440-66-6	Experimental	11 days	Bioaccumulati	2386	Other methods

		BCF - Other		on factor		
2-Butanone oxime	96-29-7	Experimental Bioconcentration		Log Kow	0.63	Other methods
2-Butanone oxime	96-29-7	Experimental BCF - Other	42 days	Bioaccumulation factor	<5.8	OECD 305C-Bioaccum degree fish
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	Other methods
Butane	106-97-8	Experimental Bioconcentration		Log Kow	2.88	Other methods
Zinc oxide	1314-13-2	Experimental BCF - Other	56 days	Bioaccumulation factor	<217	OECD 305E - Bioaccumulation flow-through fish test
Solvent naphtha (petroleum), light aromatic	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Xylene	1330-20-7	Laboratory BCF - Rainbow Tr	56 days	Bioaccumulation factor	14	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

Ingredient	CAS Nbr	PBT/vPvB status
Zinc	7440-66-6	Meets REACH PBT criteria

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. 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
16 05 04* Gases in pressure containers (including halons) containing dangerous substances

EU waste code (product container after use)

15 01 04 Metallic packaging

SECTION 14: Transportation information

DE-9999-5337-0

ADR/RID: UN1950, AEROSOLS, LIMITED QUANTITY, 2.1, (E), ADR Classification Code: 5F.
IMDG-CODE: UN1950, AEROSOLS, (ZINC), 2.1, LIMITED QUANTITY, Marine Pollutant, (ZINC), EMS: FD,SU.
ICAO/IATA: UN1950, AEROSOLS, FLAMMABLE, 2.1.

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
2-Butanone oxime	96-29-7	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
2-Butanone oxime	96-29-7	Carc.Cat.3	Regulation (EC) No. 1272/2008, Table 3.2
Xylene	1330-20-7	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.

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.
H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R10	Flammable.
R11	Highly flammable.
R12	Extremely flammable.
R15	Contact with water liberates highly flammable gases.
R17	Spontaneously flammable in air.
R20	Harmful by inhalation.
R21	Harmful in contact with skin.
R36	Irritating to eyes.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R65	Harmful: May cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Revision information:
Revision Changes:
Section 8: Respiratory protection - recommended respirators was modified.
Section 15: Carcinogenicity information was modified.
Section 16: List of relevant R phrase information was modified.
Section 3: Composition/ Information of ingredients table was modified.
Section 2: Indication of danger information was modified.
Section 13: EU waste code (product as sold) information was modified.
Section 9: Flammability (solid, gas) information was modified.
Copyright was modified.
Aspiration Hazard Table was modified.
Section 11: Acute Toxicity table was modified.
Carcinogenicity Table was modified.
Serious Eye Damage/Irritation Table was modified.
Germ Cell Mutagenicity Table was modified.
Skin Sensitisation Table was modified.
Respiratory Sensitisation Table was modified.
Reproductive Toxicity Table was modified.
Skin Corrosion/Irritation Table was modified.
Target Organs - Repeated Table was modified.
Target Organs - Single Table was modified.
Section 5: Fire - Extinguishing media information was modified.
Section 6: Accidental release clean-up information was modified.
Section 7: Conditions safe storage was modified.
Section 13: Standard Phrase Category Waste GHS was modified.
Section 8: Respiratory protection - recommended respirators guide was added.
Section 12: Component ecotoxicity information was added.
Section 12: Persistence and Degradability information was added.
Section 13: EU waste code (product container after use) heading was added.
Section 13: EU waste code (product container after use) information was added.
Section 12:Bioccumulative potential information was added.
Section 12: Component Ecotoxicity table Material column header was added.
Section 12: Component Ecotoxicity table CAS No column header was added.
Section 12: Component Ecotoxicity table Organism column header was added.
Section 12: Component Ecotoxicity table Type column header was added.
Section 12: Component Ecotoxicity table Exposure column header was added.
Section 12: Component Ecotoxicity table End point column header was added.
Section 12: Component Ecotoxicity table Result column header was added.

Section 12: Persistence and degradability table Material column header was added.
Section 12: Persistence and degradability table CAS No column header was added.
Section 12: Persistence and degradability table Test Type column header was added.
Section 12: Persistence and degradability table Duration column header was added.
Section 12: Persistence and degradability table Test Result column header was added.
Section 12: Persistence and degradability table Protocol column header was added.
Section 12:Bioccumulative potential table Material column header was added.
Section 12:Bioccumulative potential table CAS No column header was added.
Section 12:Bioccumulative potential table CAS No column header was added.
Section 12:Bioccumulative potential table Test Result column header was added.
Section 12:Bioccumulative potential table Protocol column header was added.
Section 12:Bioccumulative potential table Test Type column header was added.
Section 12: PBT/vPvB table CAS No. column heading was added.
Section 12: PBT/vPvB table CAS No. column heading was added.
Section 12: PBT/vPvB table PBT/vPvB Status column heading was added.
Section 12: PBT/vPvB table row was added.
Section 12: Persistence and degradability table Study Type column header was added.
Section 12:Bioccumulative potential table Test Type column header was added.
Label: Graphic Text was added.
Label: Graphic Text was added.
Section 9: Odour Threshold was added.
Section 9: Solubility (non-water) was added.
Section 09: Decomposition Temperature was added.
Section 11: Single exposure may cause: heading was added.
Section 11: Prolonged or repeated exposure may cause: heading was added.
Section 11: Single exposure may cause standard phrases was added.
Section 11: Prolonged or repeated exposure may cause standard phrases was added.
Section 2: R phrase reference was added.
Label: Graphic was added.
Label: Graphic was added.
Label: Graphic Text was added.
Section 9: Flammability (solid, gas) information was added.
Section 2: Symbol was deleted.
Section 2: Symbols heading was deleted.
Prints No Data if Component ecotoxicity information is not present was deleted.
Prints No Data if Persistence and Degradability information is not present was deleted.
Prints No Data if Bioccumulative potential information is not present was deleted.
Section 11: Health Effects - Other information was deleted.
Section 12: No PBT/vPvB information available warning 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.

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