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

7100047868

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 safety data sheet
Address: 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone: +353 1 280 3555
E Mail: tox.uk@mmm.com
Website: www.3M.com

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

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.
The aspiration hazard classification is not required because the product is an aerosol.

CLASSIFICATION:
Aerosol, Category 1 - Aerosol 1; H222, H229

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Carcinogenicity, Category 1B - Carc. 1B; H350
Specific Target Organ Toxicity-Single Exposure, Category 2 - STOT SE 2; H371
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

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) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
acetone	67-64-1	200-662-2	10 - 30
2-butanone oxime	96-29-7	202-496-6	< 2

HAZARD STATEMENTS:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H336	May cause drowsiness or dizziness.
H371	May cause damage to organs: respiratory system.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system | sensory organs.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P280F	Wear respiratory protection.

Response:

P308 + P313	IF exposed or concerned: Get medical advice/attention.

Storage:

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:
Restricted to professional users.

1% of the mixture consists of components of unknown acute oral toxicity.
1% of the mixture consists of components of unknown acute dermal toxicity.
36% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 1% of components with unknown hazards to the aquatic environment.

Nota P applied.

2.3. Other hazards

May displace oxygen and cause rapid suffocation.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zinc	(CAS-No.) 7440-66-6 (EC-No.) 231-175-3	15 - 40	Aquatic Acute 1, H400,M=10 Aquatic Chronic 1, H410,M=10
butane	(CAS-No.) 106-97-8 (EC-No.) 203-448-7	10 - 30	Flam. Gas 1A, H220 Liquified gas, H280 Nota C,U
acetone	(CAS-No.) 67-64-1 (EC-No.) 200-662-2	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
Solvent naphtha (petroleum), light arom.	(CAS-No.) 64742-95-6 (EC-No.) 265-199-0	1 - 10	Asp. Tox. 1, H304 Nota P Flam. Liq. 3, H226 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 3, H412
zinc oxide	(CAS-No.) 1314-13-2 (EC-No.) 215-222-5	1 - 10	Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1

propane	(CAS-No.) 74-98-6 (EC-No.) 200-827-9	1 - 10	Flam. Gas 1A, H220 Liquified gas, H280 Nota U
xylene	(CAS-No.) 1330-20-7 (EC-No.) 215-535-7	5 - 10	Flam. Liq. 3, H226 Acute Tox. 4, H332 Acute Tox. 4, H312 Skin Irrit. 2, H315 Nota C Asp. Tox. 1, H304 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412
Bentone	None	< 2	Substance not classified as hazardous
2-butanone oxime	(CAS-No.) 96-29-7 (EC-No.) 202-496-6	< 2	Acute Tox. 3, H301(LD50 = 100 mg/kg **ATE values per Annex VI**) Acute Tox. 4, H312(LD50 = 1100 mg/kg **ATE values per Annex VI**) Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1B, H350 STOT SE 1, H370 STOT SE 3, H336 STOT RE 2, H373

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. Get medical attention.

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

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

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

4.2. Most important symptoms and effects, both acute and delayed
The most important symptoms and effects based on the CLP classification include:
Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure.

See Section 11 for additional details.

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. 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
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
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. 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
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety

precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required. 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. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF. 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
butane	106-97-8	Ireland OELs	STEL(15 minutes):1000 ppm	
zinc oxide	1314-13-2	Ireland OELs	TWA(Respirable fraction & fume)(8 hours):2 mg/m3;STEL(Respirable fraction & fume)(15 minutes):10 mg/m3	
xylene	1330-20-7	Ireland OELs	TWA(8 hours):221 mg/m3(50 ppm);TWA(8 hours):50 ppm(221 mg/m3);STEL(15 minutes):442 mg/m3(100 ppm);STEL(15 minutes):100 ppm(442 mg/m3)	SKIN
acetone	67-64-1	Ireland OELs	TWA(8 hours):1210 mg/m3(500 ppm);TWA(8 hours):500 ppm(1210 mg/m3)	
2-butanone oxime	96-29-7	Ireland OELs	TWA(8 hours):10 mg/m3(3 ppm);STEL(15 minutes):33 mg/m3(10 ppm)	

Ireland OELs : Ireland. OELs
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

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

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

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full face shield.
Indirect vented goggles.

Applicable Norms/Standards
Use eye/face protection conforming to EN 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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	No data available	No data available
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Butyl rubber
Apron - polymer laminate

Respiratory protection

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

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

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136
Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.

Specific Physical Form:	Aerosol
Colour	Grey
Odor	Solvent
Odour threshold	*No data available.*
Melting point/freezing point	*No data available.*
Boiling point/boiling range	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	-104 ºC [*Details:*Propellant's flash point]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*No data available.*
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	0.95 g/cm3
Relative density	0.95 [*Ref Std:*AIR=1]
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Percent volatile	*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.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Simple asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. 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
Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): 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).

Additional Health Effects:

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

Prolonged or repeated exposure may cause target organ effects:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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

the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Zinc	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Zinc	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.41 mg/l
Zinc	Ingestion	Rat	LD50 > 2,000 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
butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Solvent naphtha (petroleum), light arom.	Dermal	Rabbit	LD50 > 2,000 mg/kg
xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Solvent naphtha (petroleum), light arom.	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.2 mg/l
Solvent naphtha (petroleum), light arom.	Ingestion	Rat	LD50 > 5,000 mg/kg
xylene	Inhalation-Vapour (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	official classification	LD50 1,100 mg/kg
2-butanone oxime	Ingestion	official classification	LD50 100 mg/kg
2-butanone oxime	Inhalation-Vapour	Rat	LC50 estimated to be 20 - 50 mg/l

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
acetone	Mouse	Minimal irritation
butane	Professional judgement	No significant irritation
propane	Rabbit	Minimal irritation
Solvent naphtha (petroleum), light arom.	Rabbit	Irritant
xylene	Rabbit	Mild irritant

zinc oxide	Human and animal	No significant irritation
2-butanone oxime	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Zinc	Rabbit	No significant irritation
acetone	Rabbit	Severe irritant
butane	Rabbit	No significant irritation
propane	Rabbit	Mild irritant
Solvent naphtha (petroleum), light arom.	Rabbit	Mild irritant
xylene	Rabbit	Mild irritant
zinc oxide	Rabbit	Mild irritant
2-butanone oxime	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Solvent naphtha (petroleum), light arom.	Guinea pig	Not classified
zinc oxide	Guinea pig	Not classified
2-butanone oxime	Guinea pig	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
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
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	In Vitro	Not mutagenic
2-butanone oxime	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
acetone	Not specified.	Multiple animal species	Not carcinogenic
Solvent naphtha (petroleum), light arom.	Inhalation	Mouse	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
2-butanone oxime	Inhalation	Multiple animal	Carcinogenic.

		species	

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
Solvent naphtha (petroleum), light arom.	Inhalation	Not classified for female reproduction	Rat	NOAEL 1,500 ppm	2 generation
Solvent naphtha (petroleum), light arom.	Inhalation	Not classified for male reproduction	Rat	NOAEL 1,500 ppm	2 generation
Solvent naphtha (petroleum), light arom.	Inhalation	Not classified for development	Rat	NOAEL 500 ppm	2 generation
xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
2-butanone oxime	Ingestion	Not classified for female reproduction	Rat	NOAEL 200 mg/kg/day	2 generation
2-butanone oxime	Ingestion	Not classified for male reproduction	Rat	NOAEL 200 mg/kg/day	2 generation
2-butanone oxime	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
xylene	Ingestion	Mouse	Not classified for 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
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
butane	Inhalation	cardiac sensitisation	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	Not classified	Dog	NOAEL 5,000 ppm	25 minutes
butane	Inhalation	respiratory irritation	Not classified	Rabbit	NOAEL Not available	

propane	Inhalation	cardiac sensitisation	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	Not classified	Human	NOAEL Not available	
Solvent naphtha (petroleum), light arom.	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Solvent naphtha (petroleum), light arom.	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
Solvent naphtha (petroleum), light arom.	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	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	
xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
xylene	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
2-butanone oxime	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2-butanone oxime	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL 100 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
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
butane	Inhalation	kidney and/or bladder | blood	Not classified	Rat	NOAEL 4,489 ppm	90 days
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	Not classified	Multiple animal species	NOAEL Not available	
xylene	Inhalation	heart | endocrine system | gastrointestinal tract | hematopoietic system | muscles | kidney and/or bladder | respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
xylene	Ingestion	liver	Not classified	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	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
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
2-butanone oxime	Inhalation	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.36 mg/l	28 days
2-butanone oxime	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Mouse	NOAEL 0.01 mg/l	90 days
2-butanone oxime	Inhalation	liver	Not classified	Rat	NOAEL 1.44 mg/l	28 days
2-butanone oxime	Ingestion	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 25 mg/kg/day	90 days
2-butanone oxime	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	90 days
2-butanone oxime	Ingestion	nervous system	Not classified	Rat	NOAEL 400 mg/kg/day	90 days
2-butanone oxime	Ingestion	liver | kidney and/or bladder | heart | endocrine system |	Not classified	Rat	NOAEL 335 mg/kg/day	90 days

		bone, teeth, nails, and/or hair | immune system				

Aspiration Hazard

Name	Value
Solvent naphtha (petroleum), light arom.	Aspiration hazard
xylene	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.

11.2. Information on other hazards

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

SECTION 12: Ecological information

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

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Zinc	7440-66-6	Bacteria	Estimated	30 minutes	EC10	0.3 mg/l
Zinc	7440-66-6	Green algae	Estimated	72 hours	EC50	0.042 mg/l
Zinc	7440-66-6	Rainbow trout	Estimated	96 hours	LC50	0.169 mg/l
Zinc	7440-66-6	Water flea	Estimated	48 hours	EC50	0.06 mg/l
Zinc	7440-66-6	Green algae	Estimated	72 hours	NOEC	0.005 mg/l
Zinc	7440-66-6	Water flea	Estimated	7 days	NOEC	0.013 mg/l
acetone	67-64-1	Algae or other aquatic plants	Experimental	96 hours	EC50	11,493 mg/l
acetone	67-64-1	Invertebrate	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
acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
butane	106-97-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Solvent naphtha (petroleum), light arom.	64742-95-6	Fathead minnow	Estimated	96 hours	LL50	8.2 mg/l
Solvent naphtha (petroleum), light arom.	64742-95-6	Green algae	Estimated	72 hours	EL50	7.9 mg/l
Solvent naphtha (petroleum), light arom.	64742-95-6	Water flea	Estimated	48 hours	EL50	3.2 mg/l

Solvent naphtha (petroleum), light arom.	64742-95-6	Green algae	Estimated	72 hours	NOEL	0.22 mg/l
Solvent naphtha (petroleum), light arom.	64742-95-6	Water flea	Experimental	21 days	NOEL	2.6 mg/l
propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
xylene	1330-20-7	Activated sludge	Estimated	3 hours	NOEC	157 mg/l
xylene	1330-20-7	Green algae	Estimated	72 hours	EC50	4.36 mg/l
xylene	1330-20-7	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
xylene	1330-20-7	Water flea	Estimated	48 hours	EC50	3.82 mg/l
xylene	1330-20-7	Green algae	Estimated	72 hours	NOEC	0.44 mg/l
xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 mg/l
xylene	1330-20-7	Rainbow trout	Experimental	56 days	NOEC	>1.3 mg/l
zinc oxide	1314-13-2	Activated sludge	Estimated	3 hours	EC50	6.5 mg/l
zinc oxide	1314-13-2	Green algae	Estimated	72 hours	EC50	0.052 mg/l
zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
zinc oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
zinc oxide	1314-13-2	Green algae	Estimated	72 hours	NOEC	0.006 mg/l
zinc oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l
2-butanone oxime	96-29-7	Bacteria	Experimental	17 hours	EC50	281 mg/l
2-butanone oxime	96-29-7	Green algae	Experimental	72 hours	EC50	16 mg/l
2-butanone oxime	96-29-7	Medaka	Experimental	96 hours	LC50	>100 mg/l
2-butanone oxime	96-29-7	Water flea	Experimental	48 hours	EC50	201 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

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Zinc	7440-66-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 %BOD/ThOD	OECD 301D - Closed bottle test
acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
butane	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	12.3 days (t 1/2)	
Solvent naphtha (petroleum), light arom.	64742-95-6	Estimated Biodegradation	28 days	BOD	78 %BOD/COD	OECD 301F - Manometric respirometry
propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	
xylene	1330-20-7	Experimental Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	

zinc oxide	1314-13-2	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2-butanone oxime	96-29-7	Experimental Biodegradation	21 days	BOD	14.5 %BOD/ThOD	
2-butanone oxime	96-29-7	Estimated Photolysis		Photolytic half-life (in air)	21.6 days (t 1/2)	
2-butanone oxime	96-29-7	Experimental Hydrolysis		Hydrolytic half-life	18 days (t 1/2)	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Zinc	7440-66-6	Estimated BCF - Fish	56 days	Bioaccumulation factor	242	
acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	
acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	
butane	106-97-8	Experimental Bioconcentration		Log Kow	2.89	
Solvent naphtha (petroleum), light arom.	64742-95-6	Estimated BCF - Fish	42 days	Bioaccumulation factor	598	OECD305-Bioconcentration
propane	74-98-6	Experimental Bioconcentration		Log Kow	2.36	
xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
zinc oxide	1314-13-2	Experimental BCF - Fish	56 days	Bioaccumulation factor	≤217	OECD305-Bioconcentration
2-butanone oxime	96-29-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	<5.8	OECD305-Bioconcentration

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
acetone	67-64-1	Modeled Mobility in Soil	Koc	9.7 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. 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 & 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

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS, FLAMMABLE	AEROSOLS(ZINC)
14.3 Transport hazard class(es)	2.1	2.1	2.1
14.4 Packing group	Not applicable.	Not applicable.	Not applicable.
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	5F	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the

transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
2-butanone oxime	96-29-7	Carc. 1B	Regulation (EC) No. 1272/2008, Table 3.1
xylene	1330-20-7	Gr. 3: Not classifiable	International Agency for Research on Cancer

Regulation (EU) 2019/1148 (marketing and use of explosive precursors)
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see your local legislation.

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.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
acetone	67-64-1	10	50
butane	106-97-8	10	50
2-butanone oxime	96-29-7	50	200
propane	74-98-6	10	50
xylene	1330-20-7	10	50
Zinc	7440-66-6	50	200
Zinc	7440-66-6	100	200
zinc oxide	1314-13-2	100	200

Regulation (EU) No 649/2012
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this substance/mixture 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.

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: may burst if heated.
H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H370	Causes damage to organs.
H371	May cause damage to organs: respiratory system.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system | sensory organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Section 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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