Safety Data Sheet

This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

Document group:	19-7627-3	**Version number:**	3.05
Issue Date:	22/07/2024	**Supersedes date:**	30/03/2020

SECTION 1: Identification

1.1. Product identifier
Sharpshooter™ Extra Strength No Rinse Mark Remover

Product Identification Numbers
LN-DCCX-224B-0 | 70-0712-8531-9 | 70-0712-8533-5

1.2. Recommended use and restrictions on use

Recommended use
Light duty graffiti remover for washable hard surfaces, Hard Surface Cleaner

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 1.
Serious Eye Damage/Irritation: Category 1.

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols
Corrosion |

Pictograms

HAZARD STATEMENTS

H314	Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards

- May cause chemical gastrointestinal burns. Corrosion classification is based on the pH of the product The corrosion classification is based on the pH of the product.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	80 - 95
2-Butoxyethanol	111-76-2	3 - 6
2-Aminoethanol	141-43-5	1 - 5
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	0.5 - 1.5
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	0.5 - 1.5
Potassium Hydroxide	1310-58-3	< 1
Tetrasodium ethylenediaminetetraacetate	64-02-8	< 0.5
POLY(OXY-1,2-ETHANEDIYL), .ALPHA..-HYDRO-.OMEGA.-HYDROXY-,MONO-c10-14-ALKYL ETHERS, PHOSPHATES	68585-36-4	< 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact

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

Eye contact

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

Immediately get medical attention.

If swallowed
Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

4.3. Indication of any immediate medical attention and special treatment required
Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. For large spills, if necessary, get assistance from professional spill clean up team. For small spills, carefully neutralise spill by adding appropriate dilute acid such as vinegar. Work slowly to avoid boiling or spattering. Continue to add neutralising agent until reaction stops. Let cool before collecting. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Clean up residue with water. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard.

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from areas where product may come into contact with food or pharmaceuticals.

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
2-Butoxyethanol	111-76-2	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
2-Butoxyethanol	111-76-2	Singapore PELs	TWA(8 hours):121 mg/m3(25 ppm)	
Potassium Hydroxide	1310-58-3	ACGIH	CEIL:2 mg/m3	
Potassium Hydroxide	1310-58-3	Singapore PELs	STEL(15 minutes):2 mg/m3	
2-Aminoethanol	141-43-5	ACGIH	TWA:3 ppm;STEL:6 ppm	
ETHANOLAMINES	141-43-5	Singapore PELs	TWA(8 hours):7.5 mg/m3(3 ppm);STEL(15 minutes):15 mg/m3(6 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

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 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

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.
Color	Colorless
Odor	Mild Solvent
Odour threshold	*Not applicable.*
pH	12.5 - 13.5
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	> 100 ºC
Flash point	No flash point
Evaporation rate	± 1 [*Ref Std:*WATER=1]
Flammability	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	< 186,158.4 Pa [@ 55 ºC]
Vapor Density and/or Relative Vapor Density	*Not applicable.*
Density	± 1.002 g/ml
Relative density	± 1.001 - 1.011 [*Ref Std:*WATER=1]
Water solubility	Complete
Solubility- non-water	*Not applicable.*
Partition coefficient: n-octanol/water	*Not applicable.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*Not applicable.*
Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	6 - 8 % weight [*Test Method:*calculated per CARB title 2]
Percent volatile	80 - 100 % weight
VOC less H2O & exempt solvents	850 - 870 g/l [*Test Method:*calculated per CARB title 2]

Particle Characteristics	*Not applicable.*

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
None known.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
Carbon monoxide.	Not specified.
Carbon dioxide.	Not specified.
Oxides of nitrogen.	Not specified.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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

Ingestion
Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen.

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-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
2-Butoxyethanol	Dermal	Guinea pig	LD50 > 2,000 mg/kg
2-Butoxyethanol	Inhalation-Vapor (4 hours)	Guinea pig	LC50 > 2.6 mg/l
2-Butoxyethanol	Ingestion	Guinea pig	LD50 1,200 mg/kg

2-Aminoethanol	Inhalation-Vapor	official classification	LC50 estimated to be 10 - 20 mg/l
2-Aminoethanol	Dermal	Rabbit	LD50 2,504 mg/kg
2-Aminoethanol	Ingestion	Rat	LD50 1,089 mg/kg
ALCOHOLS, C6-12 ETHOXYLATED	Dermal	Rabbit	LD50 1,500 mg/kg
Alcohols, C12-14-secondary, ethoxylated	Dermal	Rat	LD50 > 14,000 mg/kg
Alcohols, C12-14-secondary, ethoxylated	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.1 mg/l
Alcohols, C12-14-secondary, ethoxylated	Ingestion	Rat	LD50 > 412 mg/kg
ALCOHOLS, C6-12 ETHOXYLATED	Ingestion	Rat	LD50 5,100 mg/kg
Potassium Hydroxide	Dermal	Rabbit	LD50 > 1,260 mg/kg
Potassium Hydroxide	Ingestion	Rat	LD50 273 mg/kg
Tetrasodium ethylenediaminetetraacetate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.5 mg/l
Tetrasodium ethylenediaminetetraacetate	Ingestion	Rat	LD50 1,658 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Corrosive
2-Butoxyethanol	Rabbit	Irritant
2-Aminoethanol	Rabbit	Corrosive
Alcohols, C12-14-secondary, ethoxylated	Professional judgement	Irritant
Potassium Hydroxide	Rabbit	Corrosive
Tetrasodium ethylenediaminetetraacetate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
2-Butoxyethanol	Rabbit	Severe irritant
2-Aminoethanol	Rabbit	Corrosive
Alcohols, C12-14-secondary, ethoxylated	Professional judgement	Corrosive
Potassium Hydroxide	Rabbit	Corrosive
Tetrasodium ethylenediaminetetraacetate	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
2-Butoxyethanol	Guinea pig	Not classified
2-Aminoethanol	Guinea pig	Not classified
Alcohols, C12-14-secondary, ethoxylated	Human	Not classified
Potassium Hydroxide	Guinea pig	Not classified
Tetrasodium ethylenediaminetetraacetate	Human and animal	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
2-Butoxyethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Aminoethanol	In Vitro	Not mutagenic
2-Aminoethanol	In vivo	Not mutagenic
Potassium Hydroxide	In Vitro	Not mutagenic
Tetrasodium ethylenediaminetetraacetate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Tetrasodium ethylenediaminetetraacetate	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
2-Butoxyethanol	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Tetrasodium ethylenediaminetetraacetate	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-Butoxyethanol	Dermal	Not classified for development	Rat	NOAEL 1,760 mg/kg/day	during gestation
2-Butoxyethanol	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	during organogenesis
2-Butoxyethanol	Inhalation	Not classified for development	Multiple animal species	NOAEL 0.48 mg/l	during organogenesis
2-Aminoethanol	Dermal	Not classified for development	Rat	NOAEL 225 mg/kg/day	during organogenesis
2-Aminoethanol	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	during organogenesis
Tetrasodium ethylenediaminetetraacetate	Ingestion	Not classified for female reproduction	Rat	NOAEL 250 mg/kg/day	4 generation
Tetrasodium ethylenediaminetetraacetate	Ingestion	Not classified for male reproduction	Rat	NOAEL 250 mg/kg/day	4 generation
Tetrasodium ethylenediaminetetraacetate	Ingestion	Not classified for development	Rat	LOAEL 1,000 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2-Butoxyethanol	Dermal	endocrine system	Not classified	Rabbit	NOAEL 902 mg/kg	6 hours
2-Butoxyethanol	Dermal	liver	Not classified	Rabbit	LOAEL 72 mg/kg	not available
2-Butoxyethanol	Dermal	kidney and/or bladder	Not classified	Rabbit	LOAEL 451 mg/kg	6 hours
2-Butoxyethanol	Dermal	blood	Not classified	Multiple animal species	NOAEL Not available	
2-Butoxyethanol	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	

		system depression	dizziness		available	
2-Butoxyethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
2-Butoxyethanol	Inhalation	blood	Not classified	Multiple animal species	NOAEL Not available	
2-Butoxyethanol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
2-Butoxyethanol	Ingestion	blood	Not classified	Multiple animal species	NOAEL Not available	
2-Butoxyethanol	Ingestion	kidney and/or bladder	Not classified	Human	NOAEL Not available	poisoning and/or abuse
2-Aminoethanol	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Alcohols, C12-14-secondary, ethoxylated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Potassium Hydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL not available	
Tetrasodium ethylenediaminetetraacetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2-Butoxyethanol	Dermal	blood	Not classified	Multiple animal species	NOAEL Not available	not available
2-Butoxyethanol	Dermal	endocrine system	Not classified	Rabbit	NOAEL 150 mg/kg/day	90 days
2-Butoxyethanol	Inhalation	liver	Not classified	Rat	NOAEL 2.4 mg/l	14 weeks
2-Butoxyethanol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	14 weeks
2-Butoxyethanol	Inhalation	blood	Not classified	Rat	LOAEL 0.15 mg/l	6 months
2-Butoxyethanol	Inhalation	endocrine system	Not classified	Dog	LOAEL 1.9 mg/l	8 days
2-Butoxyethanol	Ingestion	blood	Not classified	Rat	LOAEL 69 mg/kg/day	13 weeks
2-Butoxyethanol	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	not available
2-Aminoethanol	Inhalation	hematopoietic system | liver	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
2-Aminoethanol	Inhalation	respiratory system	Not classified	Rat	LOAEL 0.0102 mg/l	28 days
2-Aminoethanol	Inhalation	heart | endocrine system | immune system | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
2-Aminoethanol	Ingestion	hematopoietic system | liver | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL Not available	
Tetrasodium ethylenediaminetetraacetate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.003 mg/l	13 weeks

Tetrasodium ethylenediaminetetraacetate	Inhalation	liver | heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | eyes | kidney and/or bladder | vascular system	Not classified	Rat	NOAEL 0.015 mg/l	13 weeks
Tetrasodium ethylenediaminetetraacetate	Ingestion	hematopoietic system | liver	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Tetrasodium ethylenediaminetetraacetate	Ingestion	heart | gastrointestinal tract | muscles | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	13 weeks

Aspiration Hazard
For the component/components, either no data are currently available or the data are 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 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 3: Harmful to aquatic life.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
2-Butoxyethanol	111-76-2	Activated sludge	Experimental	16 hours	IC50	>1,000 mg/l
2-Butoxyethanol	111-76-2	Eastern oyster	Experimental	96 hours	LC50	89.4 mg/l
2-Butoxyethanol	111-76-2	Green algae	Experimental	72 hours	ErC50	1,840 mg/l
2-Butoxyethanol	111-76-2	Rainbow trout	Experimental	96 hours	LC50	1,474 mg/l
2-Butoxyethanol	111-76-2	Water flea	Experimental	48 hours	EC50	1,550 mg/l
2-Butoxyethanol	111-76-2	Green algae	Experimental	72 hours	ErC10	679 mg/l
2-Butoxyethanol	111-76-2	Water flea	Experimental	21 days	NOEC	100 mg/l
2-Aminoethanol	141-43-5	Diatom	Experimental	72 hours	ErC50	198 mg/l
2-Aminoethanol	141-43-5	Green algae	Experimental	72 hours	ErC50	2.5 mg/l
2-Aminoethanol	141-43-5	Rainbow trout	Experimental	96 hours	LC50	105 mg/l
2-Aminoethanol	141-43-5	Water flea	Experimental	48 hours	EC50	27.04 mg/l
2-Aminoethanol	141-43-5	Green algae	Experimental	72 hours	NOEC	1 mg/l
2-Aminoethanol	141-43-5	Medaka	Experimental	41 days	NOEC	1.24 mg/l
2-Aminoethanol	141-43-5	Water flea	Experimental	21 days	NOEC	0.85 mg/l
2-Aminoethanol	141-43-5	Activated sludge	Experimental	30 minutes	IC50	>1,000 mg/l

2-Aminoethanol	141-43-5	Plant	Experimental	21 days	EC50	1,290 mg/kg (Dry Weight)
2-Aminoethanol	141-43-5	Redworm	Experimental	35 days	LC50	3,715 mg/kg (Dry Weight)
2-Aminoethanol	141-43-5	Springtail	Experimental	28 days	LC50	1,893 mg/kg (Dry Weight)
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	Fathead minnow	Estimated	96 hours	LC50	3.2 mg/l
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	Water flea	Estimated	48 hours	EC50	7.3 mg/l
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Common Carp	Analogous Compound	96 hours	LC50	1.2 mg/l
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Green algae	Analogous Compound	72 hours	ErC50	0.43 mg/l
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Water flea	Analogous Compound	48 hours	EC50	0.7 mg/l
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Green algae	Analogous Compound	72 hours	NOEC	0.09 mg/l
Potassium Hydroxide	1310-58-3	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
POLY(OXY-1,2-ETHANEDIYL), .ALPHA..-HYDRO-.OMEGA.-HYDROXY-,MONO-c10-14-ALKYL ETHERS, PHOSPHATES	68585-36-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Tetrasodium ethylenediaminetetraacetate	64-02-8	Bluegill	Experimental	96 hours	LC50	401.7 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Water flea	Experimental	24 hours	EC50	610 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Water flea	Analogous Compound	21 days	NOEC	25 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Zebra Fish	Analogous Compound	35 days	NOEC	35.1 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Green algae	Experimental	72 hours	ErC10	>100 mg/l
Tetrasodium ethylenediaminetetraacetate	64-02-8	Plant	Analogous Compound	21 days	NOEC	84 mg/kg (Dry Weight)
Tetrasodium ethylenediaminetetraacetate	64-02-8	Redworm	Analogous Compound	14 days	LC50	156.46 mg/kg (Dry Weight)
Tetrasodium ethylenediaminetetraacetate	64-02-8	Activated sludge	Experimental	30 minutes	EC10	>1,000 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2-Butoxyethanol	111-76-2	Experimental Biodegradation	28 days	CO2 evolution	90.4 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
2-Butoxyethanol	111-76-2	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	100 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
2-Aminoethanol	141-43-5	Experimental Biodegradation	28 days	CO2 evolution	80 %CO2 evolution/THCO2 evolution	
2-Aminoethanol	141-43-5	Experimental Biodegradation	21 days	Dissolv. Organic Carbon Deplet	>90 %removal of DOC	OECD 301A - DOC Die Away Test
2-Aminoethanol	141-43-5	Experimental Photolysis		Photolytic half-life (in air)	5.5 hours (t 1/2)	
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	Estimated Biodegradation		BOD	>60 %BOD/COD	OECD 301F - Manometric respirometry
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Analogous Compound Biodegradation	28 days	CO2 evolution	85 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Potassium Hydroxide	1310-58-3	Data not available-insufficient	N/A	N/A	N/A	N/A
POLY(OXY-1,2-ETHANEDIYL), .ALPHA..-HYDRO-.OMEGA.-HYDROXY-,MONO-c10-14-ALKYL ETHERS, PHOSPHATES	68585-36-4	Data not available-insufficient	N/A	N/A	N/A	N/A
Tetrasodium ethylenediaminetetraacetate	64-02-8	Analogous Compound Biodegradation	28 days	BOD	2 %BOD/ThOD	OECD 301D - Closed bottle test
Tetrasodium ethylenediaminetetraacetate	64-02-8	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	<10 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Tetrasodium ethylenediaminetetraacetate	64-02-8	Analogous Compound Soil Inherent Biodegradability	315 days	CO2 evolution	70.5 %CO2 evolution/THCO2 evolution	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2-Butoxyethanol	111-76-2	Experimental Bioconcentration		Log Kow	0.81	
2-Aminoethanol	141-43-5	Experimental Bioconcentration		Log Kow	-2.3	OECD 107 log Kow shke flsk mtd
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	Estimated Bioconcentration		Log Kow	2.72	
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Analogous Compound Bioconcentration		Log Kow	2.26	OECD 117 log Kow HPLC method
Potassium Hydroxide	1310-58-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
POLY(OXY-1,2-ETHANEDIYL), .ALPHA..-HYDRO-.OMEGA.-	68585-36-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

HYDROXY-,MONO-c10-14-ALKYL ETHERS, PHOSPHATES						
Tetrasodium ethylenediaminetetraacetate	64-02-8	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	1.8	
Tetrasodium ethylenediaminetetraacetate	64-02-8	Analogous Compound Bioconcentration		Log Kow	-4.3	

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Dispose of waste product in a permitted industrial waste 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.

SECTION 14: Transport Information

International Regulations

UN No.: UN3267
UN Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

Transportation Class (IMO): 8-8 Corrosives
Transportation Class (IATA): 8-8 Corrosives
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: III
Marine pollutant: No

SECTION 15: Regulatory information

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

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this 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.

This product may contain component(s) that are regulated by the following:
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.
Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

SECTION 16: Other information

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 Singapore SDSs are available at www.3m.com.sg