



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the DENR Administrative Order No. 2015-09 Rules and Procedures for the Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in Preparation of Safety Data Sheet (SDS) and Labelling Requirements of Toxic Chemical Substances.

SECTION 1: Identification

1.1. Product identifier

Sharpshooter™ Extra Strength No Rinse Mark Remover

Product Identification Numbers

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

For Industrial or Professional use only

1.3. Supplier's details

ADDRESS:	3M Philippines, Inc., 18th Floor, Bonifacio Stopover Corporate Center, 31st Street corner, 2nd Avenue, Bonifacio Global City, Taguig City, 1635 Philippines
Telephone:	+632 827 11680
E Mail:	mcvillalva@mmm.com
Website:	www.3m.com/ph

1.4. Emergency telephone number

+632 827 11680

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Skin Corrosion/Irritation: Category 1B.

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/vapors/spray.
 P280 Wear protective gloves, protective clothing, eye protection, and 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.

2.3. Other hazards

May cause chemical gastrointestinal burns. This material has been tested for skin corrosion/irritation and the test results are reflected in the assigned classification.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
WATER	7732-18-5	80 - 100
2-BUTOXYETHANOL	111-76-2	1 - 5
ETHANOLAMINE	141-43-5	0.5 - 1.5
ALCOHOLS, C12-14-SECONDARY, ETHOXYLATED	84133-50-6	0.1 - 1
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	0.1 - 1

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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Special protective actions for fire-fighters

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. 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes 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 neutralize spill by adding appropriate dilute acid such as vinegar. Work slowly to avoid boiling or spattering. Continue to add neutralizing agent until reaction stops. Let cool before collecting. Or use a commercially available caustic (alkaline or basic) spill clean-up kit. Follow kit directions exactly. 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/vapors/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	C.A.S. No.	Agency	Limit type	Additional Comments
2-BUTOXYETHANOL	111-76-2	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
2-BUTOXYETHANOL	111-76-2	Philippines OELs	TWA(8 hours):240 mg/m3(50 ppm)	SKIN
ETHANOLAMINE	141-43-5	ACGIH	TWA:3 ppm;STEL:6 ppm	
ETHANOLAMINE	141-43-5	Philippines OELs	Limit value not established:	
Ethanolamine	141-43-5	Philippines OELs	TWA(8 hours):6 mg/m3(3 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Philippines OELs : Philippines. Threshold Limit Values for Airborne Contaminants

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/vapors/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.

For prolonged or repeated contact, gloves made from the following material(s) are recommended (breakthrough times are >4 hours): Butyl Rubber, Natural Rubber, Neoprene, Nitrile Rubber, Polymer laminate, Polyvinyl Chloride

Any glove recommended for prolonged/repeated contact is also suitable for short-term/splash contact.

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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 vapors

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
Odor threshold	<i>Not Applicable</i>
pH	12.5 - 13.5
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point/Initial boiling point/Boiling range	> 100 °C
Flash Point	<i>No Data Available</i>
Evaporation rate	Approximately 1 [Ref Std: WATER=1]
Flammability	Not Applicable
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	< 27 psia [@ 131 °F]
Relative Vapor Density	<i>Not Applicable</i>
Density	Approximately 1.002 g/ml
Relative Density	Approximately 1.001 - 1.011 [Ref Std: WATER=1]
Water solubility	Complete
Solubility- non-water	<i>Not Applicable</i>
Partition coefficient: n-octanol/ water	<i>Not Applicable</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>Not Applicable</i>
Kinematic Viscosity	<=99.8 mm ² /sec
Volatile Organic Compounds	6 - 8 % weight [Test Method:calculated per CARB title 2]
Percent volatile	80 - 100 % weight
VOC Less H ₂ O & Exempt Solvents	850 - 870 g/l [Test Method:calculated per CARB title 2]

Particle Characteristics	<i>Not Applicable</i>
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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 polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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 labeling, 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 localized 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 feces 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

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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
ETHANOLAMINE	Inhalation-Vapor	official classification	LC50 estimated to be 10 - 20 mg/l
ETHANOLAMINE	Dermal	Rabbit	LD50 2,504 mg/kg
ETHANOLAMINE	Ingestion	Rat	LD50 1,089 mg/kg
ALCOHOLS, C6-12 ETHOXYLATED	Ingestion	Professional judgement	LD50 estimated to be 300 - 2,000 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	Dermal	similar compounds	LD50 > 1,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Corrosive
2-BUTOXYETHANOL	Rabbit	Irritant
ETHANOLAMINE	Rabbit	Corrosive
ALCOHOLS, C12-14-SECONDARY, ETHOXYLATED	Professional judgement	Irritant
ALCOHOLS, C6-12 ETHOXYLATED	Professional judgement	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
2-BUTOXYETHANOL	Rabbit	Severe irritant
ETHANOLAMINE	Rabbit	Corrosive
ALCOHOLS, C12-14-SECONDARY, ETHOXYLATED	Professional judgement	Corrosive
ALCOHOLS, C6-12 ETHOXYLATED	Rabbit	Corrosive

Sensitization:**Skin Sensitization**

Name	Species	Value
2-BUTOXYETHANOL	Guinea pig	Not classified
ETHANOLAMINE	Guinea	Not classified

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	pig	
ALCOHOLS, C12-14-SECONDARY, ETHOXYLATED	Human	Not classified

Respiratory Sensitization

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
ETHANOLAMINE	In Vitro	Not mutagenic
ETHANOLAMINE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2-BUTOXYETHANOL	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

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
ETHANOLAMINE	Dermal	Not classified for development	Rat	NOAEL 225 mg/kg/day	during organogenesis
ETHANOLAMINE	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	during organogenesis

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	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
2-BUTOXYETHANOL	Inhalation	central nervous system depression	Not classified	Professional judgement	NOAEL Not available	
2-BUTOXYETHANOL	Inhalation	blood	Not classified	Multiple animal species	NOAEL Not available	
2-BUTOXYETHANOL	Ingestion	central nervous	Not classified	Professional judgement	NOAEL Not available	

		system depression		nal judgement	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
ETHANOLAMINE	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	
ALCOHOLS, C6-12 ETHOXYLATED	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
ETHANOLAMINE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	liver	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	respiratory system	Not classified	Rat	LOAEL 0.0102 mg/l	28 days
ETHANOLAMINE	Inhalation	heart	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	immune system	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	nervous system	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	eyes	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.1559 mg/l	28 days
ETHANOLAMINE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL Not available	
ETHANOLAMINE	Ingestion	liver	Not classified	Rat	NOAEL Not available	
ETHANOLAMINE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL Not available	
ETHANOLAMINE	Ingestion	respiratory system	Not classified	Rat	NOAEL Not available	

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 labeling, 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 #	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
ETHANOLAMINE	141-43-5	Diatom	Experimental	72 hours	ErC50	198 mg/l
ETHANOLAMINE	141-43-5	Green algae	Experimental	72 hours	ErC50	2.5 mg/l
ETHANOLAMINE	141-43-5	Rainbow Trout	Experimental	96 hours	LC50	105 mg/l
ETHANOLAMINE	141-43-5	Water flea	Experimental	48 hours	EC50	27.04 mg/l
ETHANOLAMINE	141-43-5	Green algae	Experimental	72 hours	NOEC	1 mg/l
ETHANOLAMINE	141-43-5	Medaka	Experimental	41 days	NOEC	1.24 mg/l
ETHANOLAMINE	141-43-5	Water flea	Experimental	21 days	NOEC	0.85 mg/l
ETHANOLAMINE	141-43-5	Activated sludge	Experimental	30 minutes	IC50	>1,000 mg/l

ETHANOLAMIN E	141-43-5	Plant	Experimental	21 days	EC50	1,290 mg/kg (Dry Weight)
ETHANOLAMIN E	141-43-5	Redworm	Experimental	35 days	LC50	3,715 mg/kg (Dry Weight)
ETHANOLAMIN E	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

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
2-BUTOXYETHANOL	111-76-2	Experimental Biodegradation	28 days	Carbon dioxide evolution	90.4 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. 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
ETHANOLAMIN E	141-43-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	80 %CO2 evolution/THCO2 evolution	
ETHANOLAMIN E	141-43-5	Experimental Biodegradation	21 days	Dissolv. Organic Carbon Deplet	>90 %removal of DOC	OECD 301A - DOC Die Away Test
ETHANOLAMIN E	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		Biological Oxygen Demand	>60 %BOD/COD	OECD 301F - Manometric Respiro
ALCOHOLS, C6-12 ETHOXYLATED	68439-45-2	Analogous Compound Biodegradation	28 days	Carbon dioxide evolution	85 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
2-BUTOXYETHANOL	111-76-2	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.81	
ETHANOLAMIN E	141-43-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-2.3	OECD 107 log Kow shke flask mtd
ALCOHOLS, C12-14-SECONDARY, ETHOXYLATED	84133-50-6	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	2.72	
ALCOHOLS, C6-12	68439-45-2	Analogous Compound		Log of Octanol/H2O part.	2.26	OECD 117 log Kow HPLC method

ETHOXYLATED		Bioconcentration		coeff		
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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

Not hazardous for transportation.

Marine Transport (IMDG)

UN Number:UN3267

Proper Shipping Name:CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

Technical Name:None assigned.

Hazard Class/Division:8

Subsidiary Risk:None assigned.

Packing Group:III

Limited Quantity:Yes

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number:UN3267

Proper Shipping Name:CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

Technical Name:None assigned.

Hazard Class/Division:8

Subsidiary Risk:None assigned.

Packing Group:III

Limited Quantity:None assigned.

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to

transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

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.

SECTION 16: Other information

Revision information:

Section 01: Address information was modified.
Section 02: PH Pictogram information was modified.
Section 02: PH Precautionary - Prevention information was modified.
Section 02: PH Precautionary - Response information was modified.
Section 03: Ingredient table information was modified.
Section 03: Material is a mixture standard phrase information was added.
Section 05: Fire - Advice for fire fighters information information was modified.
Section 05: Fire - Extinguishing media information information was modified.
Section 06: Accidental release environmental information information was modified.
Section 06: Accidental release personal information information was modified.
Section 07: Conditions safe storage information was modified.
Section 07: Precautions safe handling information information was modified.
Section 08: Occupational exposure limit table information was modified.
Section 08: Personal Protection - Apron Statement information was added.
Section 08: Personal Protection - Skin/body information information was deleted.
Section 08: Skin protection - protective clothing information information was deleted.
Section 08: Skin protection - recommended gloves information information was deleted.
Section 08: Skin protection - recommended gloves text information was deleted.
Section 09: Flash point information information was modified.
Section 09: Kinematic Viscosity information information was modified.
Section 09: Vapor Density Value information was modified.
Section 09: Vapor pressure value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 8: Prolonged Glove Statement information was added.
Section 8: Prolonged Glove Types information was added.
Section 8: Prolonged Gloves Suitable for Short Term (with gloves) information was added.

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 Philippines SDSs are available at www.3m.com/ph