



Safety Data Sheet

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Document Group:	28-0422-7	Version Number:	2.00
Issue Date:	19/11/2016	Supersedes Date:	01/12/2015

This Safety Data Sheet has been prepared in accordance with the Notification of Ministry of Industry, System of Hazardous Classification and Communication B.E.2555.

SECTION 1: Identification

1.1. Product identifier

3M Dish Washer Liquid Lemon

Company: 3M Thailand Ltd.

Address: 12th Floor, Serm-Mitr Tower 159 Asoke Road (Sukhumvit 21) Bangkok 10110 Thailand

Product Identification Numbers

XN-0020-2484-4 XN-0020-2519-7 XN-0020-2846-4 XN-0020-3372-0 XN-0020-3710-1

1.2. Recommended use and restrictions on use

Recommended use

Dish washer soap.

1.3. Supplier's details

ADDRESS: 3M Thailand Limited, Sukhumvit 21, Wattana, Bangkok 10110, Thailand

Telephone: 66(0)22608577

E Mail: 3MThailand@mmm.com

Website: <http://www.3M.com/TH>

1.4. Emergency telephone number

66-2-2608577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 1.

Skin Sensitizer: Category 1.

Acute Aquatic Toxicity: Category 3.

Chronic Aquatic Toxicity: Category 3.

2.2. Label elements

Signal word

Danger

3M Dish Washer Liquid Lemon

Symbols

Corrosion | Exclamation mark |

Pictograms



Hazard Statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

General:

P102 Keep out of reach of children.
P101 If medical advice is needed, have product container or label at hand.

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/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/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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

P405 Store locked up.

Disposal:

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

2.3. Other hazards

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Water	7732-18-5	80 - 90
Benzenesulfonic acid, dodecyl-	27176870	10 - 20
Sodium Lauryl Ether Sulfate	9004-82-4	1 - 10
Sodium Hydroxide	1310-73-2	< 5
2-METHYL-4-ISOTHIAZOLINE-3-ONE	2682-20-4	< 0.1

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Material will not burn. Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide
Irritant Vapors or Gases

Condition

During Combustion
During Combustion
During Combustion

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 dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

3M Dish Washer Liquid Lemon

Contain spill. 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 closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. 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. Contaminated work clothing should not be allowed out of the workplace. 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 strong bases.

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
Sodium Hydroxide	1310-73-2	ACGIH	CEIL:2 mg/m ³	
Sodium Hydroxide	1310-73-2	Thailand OELs	TWA(8 hours):2 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Thailand OELs : Thailand. Ministry of Interior, Re: Notification Health and Safety in the Work Environment on chemical B.E.2520

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

3M Dish Washer Liquid Lemon

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 exposure assessment. The following protective clothing material(s) are recommended: 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 vapors and particulates

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
Appearance/Odor	Lemon scented yellow liquid.
Odor threshold	No Data Available
pH	6.5 - 7.5
Melting point/Freezing point	Not Applicable
Boiling point/Initial boiling point/Boiling range	100 °C [Test Method: Estimated]
Flash Point	No flash point [Test Method: Closed Cup]
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	Not Applicable
Flammable Limits(UEL)	Not Applicable
Vapor Pressure	2,333.1 Pa [@ 20 °C]
Vapor Density	No Data Available
Density	1.028 - 1.034 g/ml
Relative Density	1.065 - 1.08 [Ref Std: WATER=1]
Water solubility	Complete
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	500 - 700 mPa-s

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 polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong bases

Aluminum

Alkali and alkaline earth metals

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 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.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Sodium Lauryl Ether Sulfate	Ingestion	Rat	LD50 1,600 mg/kg
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Dermal	Rabbit	LD50 87 mg/kg

3M Dish Washer Liquid Lemon

2-METHYL-4-ISOTHIAZOLINE-3-ONE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sodium Hydroxide	Rabbit	Corrosive
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Sodium Hydroxide	Rabbit	Corrosive
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Sodium Hydroxide	Human	Not sensitizing
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Human and animal	Sensitizing

Photosensitization

Name	Species	Value
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Human and animal	Not sensitizing

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
Sodium Hydroxide	In Vitro	Not mutagenic
2-METHYL-4-ISOTHIAZOLINE-3-ONE	In vivo	Not mutagenic
2-METHYL-4-ISOTHIAZOLINE-3-ONE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Dermal	Mouse	Not carcinogenic
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Ingestion	Rat	Not carcinogenic

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

Name	Route	Value	Species	Test Result	Exposure Duration
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-METHYL-4-ISOTHIAZOLINE-3-ONE	Ingestion	Not toxic to development	Rat	NOAEL 15 mg/kg/day	during organogenesis

3M Dish Washer Liquid Lemon

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Hydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
2-METHYL-4-ISOTHIAZOLINE-3-ONE	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

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

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:

GHS Chronic 3: Harmful to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Sodium Lauryl Ether Sulfate	9004-82-4	Algae other	Estimated	96 hours	Effect Concentration 50%	2.6 mg/l
Sodium Lauryl Ether Sulfate	9004-82-4	Rainbow Trout	Estimated	28 days	No obs Effect Conc	0.1 mg/l
Sodium Lauryl Ether Sulfate	9004-82-4	Water flea	Experimental	21 days	No obs Effect Conc	0.27 mg/l
Sodium Lauryl Ether Sulfate	9004-82-4	Water flea	Laboratory	48 hours	Effect Concentration 50%	3.12 mg/l
Sodium Lauryl Ether Sulfate	9004-82-4	Rainbow Trout	Experimental	28 days	No obs Effect Conc	0.12 mg/l
Sodium Hydroxide	1310-73-2		Data not available or insufficient for classification			
2-METHYL-4-	2682-20-4	Rainbow Trout	Experimental	96 hours	Lethal	0.07 mg/l

3M Dish Washer Liquid Lemon

ISOTHIAZOLI NE-3-ONE					Concentration 50%	
2-METHYL-4- ISOTHIAZOLI NE-3-ONE	2682-20-4	Water flea	Experimental	48 hours	Effect Concentration 50%	0.18 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Sodium Hydroxide	1310-73-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-METHYL-4- ISOTHIAZOLI NE-3-ONE	2682-20-4	Experimental Biodegradation	28 days	Carbon dioxide evolution	48 % weight	Other methods
Sodium Lauryl Ether Sulfate	9004-82-4	Experimental Biodegradation	28 days	Biological Oxygen Demand	100 % weight	OECD 301D - Closed Bottle Test
Sodium Lauryl Ether Sulfate	9004-82-4	Experimental Biodegradation	26 days	Carbon dioxide evolution	81 % weight	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Sodium Hydroxide	1310-73-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-METHYL-4- ISOTHIAZOLI NE-3-ONE	2682-20-4	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.5	Other methods
Sodium Lauryl Ether Sulfate	9004-82-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium Lauryl Ether Sulfate	9004-82-4	Estimated Bioconcentration		Bioaccumulation Factor	5.9	Est: Bioconcentration factor

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

3M Dish Washer Liquid Lemon

waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

Not hazardous for transportation.

UN No.: Not applicable

UN Proper Shipping Name: Not applicable N.O.S., (DODECYLBENZENESULFONIC ACID)

Transport hazard class (IMO): Not applicable

Transport hazard class (IATA): Not applicable

Packing Group: Not applicable

Environmental Hazards:

Not applicable

Special precautions for user

Not applicable.

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.

SECTION 16: Other information

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3M Thailand SDSs are available at <http://www.3M.com/TH>