



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M™ Citrus Base Industrial Cleaner for Metal Equipment (Aerosol)

Product Identification Numbers

62-4615-4930-5 62-4615-4935-4

1.2. Recommended use and restrictions on use

Recommended use

aerosol cleaner, Industrial use

For Industrial or Professional use only

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301
Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable Aerosol: Category 1.

Gas Under Pressure: Liquefied gas.

Specific Target Organ Toxicity (single exposure): Category 1.

Acute Aquatic Toxicity: Category 1.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Gas cylinder | Health Hazard | Environment |

Pictograms



Hazard Statements:

H222	Extremely flammable aerosol.
H280	Contains gas under pressure; may explode if heated.
H370	Causes damage to organs: cardiovascular system.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

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.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P273	Avoid release to the environment.

Response:

P307+ P311	IF exposed: Call a POISON CENTER or doctor/physician.
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Storage:

P403	Store in a well-ventilated place.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Disposal:

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

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
D-Limonene	5989-27-5	70 - 90
Propane	74-98-6	10 - 19
Polysorbate 80	9005-65-6	1 - 7
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Trade Secret	< 5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. Get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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

Target organ effects. 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. Suitable 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

Aldehydes
Hydrocarbons
Carbon monoxide
Carbon dioxide
Ketones

Condition

During Combustion
During Combustion
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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is

available. Close cylinder. Cover spill area with a fire-extinguishing foam. 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 authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. 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

Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after 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 contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

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
Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
Propane	74-98-6	Malaysia OELs	TWA(8 hours):2500 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

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:

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.

Gloves made from the following material(s) are recommended: Nitrile Rubber

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

Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Gas Aerosol
Specific Physical Form:	Aerosol
Color	Light Yellow
Odor	Sweet Odor
Odor threshold	No Data Available
pH	Not Applicable
Melting point/Freezing point	No Data Available
Boiling point/Initial boiling point/Boiling range	Not Applicable
Flash Point	-45.6 °C
Evaporation rate	Not Applicable
Flammability (solid, gas)	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	3,733 Pa [@ 20 °C] [Details:Composite Vapor Pressure (Calculated)]
Vapor Density and/or Relative Vapor Density	Not Applicable
Density	0.784 g/ml
Relative Density	0.784 [Ref Std:WATER=1]
Water solubility	Slight (less than 10%)
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	Not Applicable
Viscosity/Kinematic Viscosity	Not Applicable
Volatile Organic Compounds	95.7 % [Test Method:calculated per CARB title 2]
Volatile Organic Compounds	751 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:Material VOC]
Percent volatile	No Data Available
VOC Less H2O & Exempt Solvents	No Data Available
Molecular weight	No Data Available
Solids Content	2 - 7 %

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

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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:

May be harmful if inhaled.

May cause additional health effects (see below).

Skin Contact:

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

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:

Single exposure may cause target organ effects:

Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

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

3M™ Citrus Base Industrial Cleaner for Metal Equipment (Aerosol)

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
D-Limonene	Inhalation-Vapor (4 hours)	Mouse	LC50 > 3.14 mg/l
D-Limonene	Dermal	Rabbit	LD50 > 5,000 mg/kg
D-Limonene	Ingestion	Rat	LD50 4,400 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Polysorbate 80	Dermal	Not available	LD50 > 5,000 mg/kg
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Dermal	Rabbit	LD50 > 19,340 mg/kg
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Inhalation-Dust/Mist	Rat	LC50 estimated to be 5 - 12.5 mg/l
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Ingestion	Rat	LD50 3,300 mg/kg
Polysorbate 80	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
Polysorbate 80	Ingestion	Rat	LD50 20,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
D-Limonene	Rabbit	Mild irritant
Propane	Rabbit	Minimal irritation
Polysorbate 80	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
D-Limonene	Rabbit	Mild irritant
Propane	Rabbit	Mild irritant
Polysorbate 80	Rabbit	No significant irritation

Sensitization:**Skin Sensitization**

Name	Species	Value
Overall product	Guinea pig	Not classified
D-Limonene	Mouse	Sensitizing
Polysorbate 80	Guinea pig	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
D-Limonene	In Vitro	Not mutagenic
D-Limonene	In vivo	Not mutagenic
Propane	In Vitro	Not mutagenic
Polysorbate 80	In Vitro	Not mutagenic

Carcinogenicity

3M™ Citrus Base Industrial Cleaner for Metal Equipment (Aerosol)

Name	Route	Species	Value
D-Limonene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Polysorbate 80	Ingestion	Rat	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
D-Limonene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
D-Limonene	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Polysorbate 80	Ingestion	Not classified for female reproduction	Rat	NOAEL 6,666 mg/kg/day	3 generation
Polysorbate 80	Ingestion	Not classified for male reproduction	Rat	NOAEL 6,666 mg/kg/day	3 generation
Polysorbate 80	Ingestion	Not classified for development	Rat	NOAEL 5,000 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
D-Limonene	Ingestion	nervous system	Not classified		NOAEL Not available	
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
D-Limonene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
D-Limonene	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
D-Limonene	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Polysorbate 80	Ingestion	heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system	Not classified	Rat	NOAEL 4,132 mg/kg/day	90 days

		nervous system kidney and/or bladder respiratory system				
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Aspiration Hazard

Name	Value
D-Limonene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for 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 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 2: Toxic to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
D-Limonene	5989-27-5	Fathead Minnow	Experimental	96 hours	LC50	0.702 mg/l
D-Limonene	5989-27-5	Green algae	Experimental	72 hours	EC50	0.32 mg/l
D-Limonene	5989-27-5	Water flea	Experimental	48 hours	EC50	0.307 mg/l
D-Limonene	5989-27-5	Green algae	Experimental	72 hours	EC10	0.174 mg/l
D-Limonene	5989-27-5	Water flea	Experimental	21 days	NOEC	0.08 mg/l
Propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Polysorbate 80	9005-65-6	Copepod	Analogous Compound	48 hours	LL50	>10,000 mg/l
Polysorbate 80	9005-65-6	Green algae	Analogous Compound	72 hours	EL50	58.84 mg/l
Polysorbate 80	9005-65-6	Zebra Fish	Analogous Compound	96 hours	LC50	>100 mg/l
Polysorbate 80	9005-65-6	Green algae	Analogous Compound	72 hours	EC10	19.05 mg/l
Polysorbate 80	9005-65-6	Water flea	Analogous Compound	21 days	NOEL	10 mg/l
Non-ionic surfactant (NJTS Reg. No. 800927-	Trade Secret	Activated sludge	Experimental	30 minutes	NOEC	>2,000 mg/l

500P)						
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Trade Secret	Fathead Minnow	Experimental	96 hours	LC50	11,619 mg/l
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Trade Secret	Water flea	Experimental	48 hours	EC50	>10,000 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
D-Limonene	5989-27-5	Experimental Biodegradation	14 days	Biological Oxygen Demand	98 %BOD/ThO D	OECD 301C - MITI (I)
Propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	
Polysorbate 80	9005-65-6	Experimental Biodegradation	28 days	Carbon dioxide evolution	61 %CO2 evolution/THC O2 evolution	ISO 14593 Inorg C Headspace
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Trade Secret	Experimental Biodegradation	28 days	Biological Oxygen Demand	60 %BOD/ThO D	OECD 301F - Manometric Respiro

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
D-Limonene	5989-27-5	Estimated Bioconcentration		Bioaccumulation Factor	2100	
Propane	74-98-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.36	
Polysorbate 80	9005-65-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Non-ionic surfactant (NJTS Reg. No. 800927-500P)	Trade Secret	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.2	

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

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)

UN Number:UN1950

Proper Shipping Name:AEROSOLS, FLAMMABLE

Technical Name:None assigned.

Hazard Class/Division:2.1

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:Yes

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number:UN1950

Proper Shipping Name:AEROSOLS, FLAMMABLE

Technical Name:None assigned.

Hazard Class/Division:2.1

Subsidiary Risk:None assigned.

Packing Group:None assigned.

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 material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. 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

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation 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 Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

3M Malaysia SDSs are available at www.3M.com.my