Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
CC-4 Cable Cleaner

Product Identification Numbers
AE-0105-8748-1

1.2. Recommended use and restrictions on use

Recommended use
Electrical, SOLVENTS FOR CLEANING ELECTRICAL CABLE

For Industrial or Professional use only.

1.3. Supplier's details

Address:	3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone:	136 136
E Mail:	productinfo.au@mmm.com
Website:	www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Flammable Liquid: Category 4.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 3
Aspiration Hazard: Category 1.

2.2. Label elements

The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word

Danger

Symbols

Exclamation mark |Health Hazard |

Pictograms

Hazard statements

H227	Combustible Liquid
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.

Precautionary statements

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

P403	Store in a well-ventilated place.
P405	Store locked up.

Disposal:

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

2.3. Other assigned/identified product hazards

None known.

2.4. Other hazards which do not result in classification
Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
Isoparaffinic Hydrocarbon	64742-48-9	80 - 95
D-Limonene	5989-27-5	5 - 20

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 wash with soap and water. Remove contaminated clothing and wash before reuse. 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
Do not induce vomiting. Get immediate medical attention.

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

Allergic skin reaction (redness, swelling, blistering, and itching). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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 flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

Hazchem Code: •3Z

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. WARNING ! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
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. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

This product is classified as a C1 COMBUSTIBLE LIQUID. For more information please refer to AS 1940

7.1. Precautions for safe handling
Vapours may travel long distances along the ground or floor to an ignition source and flash back. For industrial/occupational use only. Not for consumer sale or use. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidising 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	CAS Nbr	Agency	Limit type	Additional comments
D-Limonene	5989-27-5	AIHA	TWA:165.5 mg/m3(30 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser

Sk: Absorption through the skin may be a significant source of exposure.

8.2. Exposure controls

8.2.1. Engineering controls
No engineering controls required.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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: Fluoroelastomer
Nitrile rubber.

Select and use gloves according to AS/NZ 2161.

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.
Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	liquid
Colour	Colorless
Odour	Citrus
Odour threshold	*No data available.*
pH	7
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	193.3 - 248.9 ºC
Flash point	62.2 ºC [*Test Method:*Closed Cup]
Evaporation rate	>=1 [*Ref Std:*BUOAC=1]
Flammability (solid, gas)	Not applicable.

Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	*No data available.*
Relative density	0.76 [*Details:*Ref Std Water = 1]
Water solubility	*Not applicable.*
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/Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	Approximately 740 g/l
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	6.34 lb/gal
Molecular weight	*Not applicable.*

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. Conditions to avoid
Sparks and/or flames.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	**Condition**
Carbon monoxide.	Not specified.
Carbon dioxide.	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. May cause additional health effects (see below).

Skin contact
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

Ingestion
Chemical (aspiration) pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish coloured skin (cyanosis), and may be fatal. Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Isoparaffinic Hydrocarbon	Inhalation-Vapour		LC50 estimated to be 20 - 50 mg/l
Isoparaffinic Hydrocarbon	Dermal	Rabbit	LD50 > 3,000 mg/kg
Isoparaffinic Hydrocarbon	Ingestion	Rat	LD50 > 5,000 mg/kg
D-Limonene	Inhalation-Vapour (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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Isoparaffinic Hydrocarbon	Rabbit	Irritant
D-Limonene	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Isoparaffinic Hydrocarbon	Rabbit	No significant irritation
D-Limonene	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Isoparaffinic Hydrocarbon	Guinea pig	Not classified
D-Limonene	Mouse	Sensitising

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
Isoparaffinic Hydrocarbon	In vivo	Not mutagenic
Isoparaffinic Hydrocarbon	In Vitro	Some positive data exist, but the data are not sufficient for classification
D-Limonene	In Vitro	Not mutagenic
D-Limonene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Isoparaffinic Hydrocarbon	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Isoparaffinic Hydrocarbon	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
D-Limonene	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
Isoparaffinic Hydrocarbon	Inhalation	Not classified for development	Rat	NOAEL 2.4 mg/l	during organogenesis
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Isoparaffinic Hydrocarbon	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Isoparaffinic Hydrocarbon	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Isoparaffinic Hydrocarbon	Inhalation	nervous system	Not classified	Dog	NOAEL 6.5 mg/l	4 hours
Isoparaffinic Hydrocarbon	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
D-Limonene	Ingestion	nervous system	Not classified		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Isoparaffinic Hydrocarbon	Inhalation	nervous system	Not classified	Rat	LOAEL 4.6 mg/l	6 months

Isoparaffinic Hydrocarbon	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.9 mg/l	13 weeks
Isoparaffinic Hydrocarbon	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.6 mg/l	90 days
Isoparaffinic Hydrocarbon	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Isoparaffinic Hydrocarbon	Inhalation	heart	Not classified	Multiple animal species	NOAEL 1.3 mg/l	90 days
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

Aspiration Hazard

Name	Value
Isoparaffinic Hydrocarbon	Aspiration hazard
D-Limonene	Aspiration hazard

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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 2: 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 Number	Organism	Type	Exposure	Test endpoint	Test result
Isoparaffinic Hydrocarbon	64742-48-9	Fathead minnow	Estimated	96 hours	LL50	8.2 mg/l

Isoparaffinic Hydrocarbon	64742-48-9	Green algae	Estimated	72 hours	EL50	3.1 mg/l
Isoparaffinic Hydrocarbon	64742-48-9	Water flea	Estimated	48 hours	EL50	4.5 mg/l
Isoparaffinic Hydrocarbon	64742-48-9	Green algae	Estimated	72 hours	NOEL	0.5 mg/l
Isoparaffinic Hydrocarbon	64742-48-9	Water flea	Estimated	21 days	NOEL	2.6 mg/l
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

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Isoparaffinic Hydrocarbon	64742-48-9	Estimated Biodegradation	28 days	BOD	10 %BOD/ThOD	OECD 301D - Closed bottle test
D-Limonene	5989-27-5	Experimental Biodegradation	14 days	BOD	98 %BOD/ThOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Isoparaffinic Hydrocarbon	64742-48-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
D-Limonene	5989-27-5	Estimated Bioconcentration		Bioaccumulation factor	2100	

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.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Paraffins (Petroleum), Normal C5-C20; D-Limonene)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Limited quantity may apply

Hazchem Code: •3Z
IERG: 47

International Air Transport Association (IATA) - Air Transport
UN No.: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Paraffins (Petroleum), Normal C5-C20; D-Limonene)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Paraffins (Petroleum), Normal C5-C20; D-Limonene)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Marine Pollutant: Paraffins (Petroleum), Normal C5-C20; D-Limonene
Special Instructions: Limited quantity may apply

SECTION 15: Regulatory information

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

Australian Inventory Status:
All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC). Conditions may apply prior to introduction for direct importers of this product, Please contact 3M Australia on 136 136 for further details.

Poison Schedule: This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

SECTION 16: Other information

Revision information:
Complete document review.

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 Safety 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.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au