





安全資料表

危害物料資料

1. 產品與用途							
1.1 物料名稱	CO [®] CONTACT CLEANER						
1.2 用途	精密電器清潔劑						
2. 危害成份							
2.1 危害分類及標籤							
	有害	有毒	腐蝕性	易燃	刺激性	爆炸性	助燃
	()	()	()	(✓)	()	()	()
2.2 酸鹼值(pH)	無資料			2.3 曝露限制(OEL)	無資料		
2.4 致癌物質	有			2.5 其他危害	無資料		
2.5 潛在危害	<p>極其易燃</p> <p>吸入：高蒸發濃度會引起呼吸道過敏發炎，並可引起頭痛、頭暈眼花、麻木、困倦、無意識及其他中樞神經系統影響，甚至死亡。</p> <p>眼睛接觸：可能引致輕微過敏發炎、刺痛泛紅，但不會損傷眼組織</p> <p>皮膚接觸：單次短時間暴露可能引起輕微的過敏發炎。多次長時間暴露可能引起嚴重的過敏皮膚脫脂及皮炎。</p> <p>食入：主要危害在於吞嚥或嘔吐過程中吸入肺部。少量產品進入呼吸系統可引起支氣管炎、肺水腫，甚至死亡。</p>						
3. 火警和爆炸資料							
3.1 燃燒物成份比例	無資料	3.2 沸點()	140	3.3 溶點	無資料		
3.4 閃點()	<0	3.5 比重	0.6699	3.6 氣壓力	160mmHg@68		
3.7 爆炸極限(濃度)	9.0	3.8 溶解度	可溶於水	3.9 氣味	酒精味		
3.10 滅火設備	二氧化碳、泡沫、化學乾粉式滅火器						
4. 急救處理							
4.1 眼睛接觸	立即用大量清水沖洗 15 分鐘，如果症狀未消除，儘快尋求醫療護理。						
4.2 皮膚接觸	除去受污染的衣物，用肥皂及清水沖洗接觸部位。如果症狀未消除，儘快尋求醫療護理。受污染衣物清洗後才可再次使用。						
4.3 吸入	迅速離開現場到新鮮空氣處。保持氣道暢通。如患者沒有呼吸，進行人工呼吸，如果患者呼吸困難，則提供氧氣，儘快尋求醫療護理。						
4.4 食入	不要強行嘔吐出來，並即時尋求醫療護理。						
5. 個人防護裝備							
<input checked="" type="checkbox"/> 橡膠手套		<input checked="" type="checkbox"/> 防化學品護眼罩			<input type="checkbox"/> 口罩		



6. 處理及使用應知事項	
6.1 儲存注意事項	<ul style="list-style-type: none">• 儲存於乾陰涼區域，• 避免光照• 溫度必需保持在 華氏120以下• 避免容器爆裂
6.2 意外洩漏處理的方法	以屏障控制溢出。除去所有火源。保持通風。如果在密閉空間或不通風區域，清理人員應佩戴適當呼吸裝備。用化學品溢出吸收劑覆蓋、吸收溢出物。使用過的吸收劑放置於適當的廢物容器。
7. 其他資料	
<ul style="list-style-type: none">- 注意預防對地面及地表水源的污染。不得直接排入下水道、雨水渠- 保持充分通風，防止蒸氣累積	



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™ Quick Drying Contact Cleaner 16-102

Product Identification Numbers

60-4550-5092-6 80-6114-3447-5 XE-0090-0869-1

1.2. Recommended use and restrictions on use

Recommended use

Electronic contact cleaner, Quick drying aerosol

Restrictions on use

AVOID HEAT, FLAME, SPARKS AND LIVE ELECTRICAL POWER.

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: Compressed gas.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Gas cylinder | Exclamation mark | Environment

Pictograms**Hazard Statements:**

H222	Extremely flammable aerosol.
H280	Contains gas under pressure; may explode if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
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.
P273	Avoid release to the environment.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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Storage:

P410 + P403	Protect from sunlight. 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

Aspiration classification does not apply as this product is sold in sealed, self-pressurized containers with nozzles designed to prevent formation of a stream during usage. Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. May cause drowsiness or dizziness.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Ethyl Alcohol	64-17-5	35 - 55
Methyl Acetate	79-20-9	17 - 35
Heptane	142-82-5	10 - 22
Carbon Dioxide	124-38-9	2 - 15

Isopropyl Alcohol	67-63-0	3 - 15
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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:

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

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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

No critical symptoms or effects. 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

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

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

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.

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 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

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. Cover spill area with a fire extinguishing foam that is resistant to polar solvents. 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 metal container approved for transportation by appropriate authorities. 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

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. 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. Avoid breathing 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. Keep container tightly closed. 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
Carbon Dioxide	124-38-9	ACGIH	TWA:5000 ppm;STEL:30000 ppm	
Carbon Dioxide	124-38-9	Malaysia OELs	TWA(8 hours):9000 mg/m3(5000 ppm)	
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Heptane	142-82-5	Malaysia OELs	TWA(8 hours):1640 mg/m3(400 ppm)	
Ethyl Alcohol	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.
Ethyl Alcohol	64-17-5	Malaysia OELs	TWA(8 hours):1880 mg/m3(1000 ppm)	
Isopropyl Alcohol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 ppm	A4: Not class. as human carcin
Isopropyl Alcohol	67-63-0	Malaysia OELs	TWA(8 hours):983 mg/m3(400 ppm)	
Methyl Acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
Methyl Acetate	79-20-9	Malaysia OELs	TWA(8 hours):606 mg/m3(200 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: Fluoroelastomer

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

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators may have short service life.

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
Specific Physical Form:	Compressed Gas
Color	Colorless
Odor	Hydrocarbon
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point/Initial boiling point/Boiling range	-17.8 - 100 °C
Flash Point	<=-17.8 °C
Evaporation rate	>=1 [Ref Std:ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1.1 % volume
Flammable Limits(UEL)	19 % volume
Vapor Pressure	4,399.6 - 101,324.7 Pa
Vapor Density and/or Relative Vapor Density	>=1 [Ref Std:AIR=1]
Density	0.8 kg/l
Relative Density	0.67 [Ref Std:WATER=1]
Water solubility	Approximately 20 %
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>

Decomposition temperature	<i>No Data Available</i>
Viscosity/Kinematic Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	75 % weight
Percent volatile	100 % volume
VOC Less H2O & Exempt Solvents	75 %

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

Sparks and/or flames

Heat

10.5. Incompatible materials

Strong oxidizing agents

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.

May cause additional health effects (see below).

Skin Contact:

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

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

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

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.

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Ethyl Alcohol	Dermal	Rabbit	LD50 > 15,800 mg/kg
Ethyl Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
Ethyl Alcohol	Ingestion	Rat	LD50 17,800 mg/kg
Heptane	Dermal	Rabbit	LD50 3,000 mg/kg
Heptane	Inhalation-Vapor (4 hours)	Rat	LC50 103 mg/l
Heptane	Ingestion	Rat	LD50 > 15,000 mg/kg
Methyl Acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Methyl Acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 49 mg/l
Methyl Acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Isopropyl Alcohol	Dermal	Rabbit	LD50 12,870 mg/kg
Isopropyl Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 72.6 mg/l
Isopropyl Alcohol	Ingestion	Rat	LD50 4,710 mg/kg
Carbon Dioxide	Inhalation-Gas (4 hours)	Rat	LC50 > 53,000 ppm

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ethyl Alcohol	Rabbit	No significant irritation
Heptane	Human	Mild irritant

Methyl Acetate	Rabbit	No significant irritation
Isopropyl Alcohol	Multiple animal species	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ethyl Alcohol	Rabbit	Severe irritant
Heptane	Professional judgement	Moderate irritant
Methyl Acetate	Rabbit	Moderate irritant
Isopropyl Alcohol	Rabbit	Severe irritant

Sensitization:**Skin Sensitization**

Name	Species	Value
Ethyl Alcohol	Human	Not classified
Methyl Acetate	Human	Not classified
Isopropyl Alcohol	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
Ethyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethyl Alcohol	In vivo	Some positive data exist, but the data are not sufficient for classification
Heptane	In Vitro	Not mutagenic
Methyl Acetate	In Vitro	Not mutagenic
Methyl Acetate	In vivo	Not mutagenic
Isopropyl Alcohol	In Vitro	Not mutagenic
Isopropyl Alcohol	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Ethyl Alcohol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Isopropyl Alcohol	Inhalation	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
Ethyl Alcohol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation
Isopropyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis

Isopropyl Alcohol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation
Carbon Dioxide	Inhalation	Not classified for male reproduction	Mouse	LOAEL 350,000 ppm	not available
Carbon Dioxide	Inhalation	Not classified for development	Rat	LOAEL 60,000 ppm	24 hours

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Ethyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethyl Alcohol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
Ethyl Alcohol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
Ethyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
Heptane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Heptane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Heptane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Methyl Acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Methyl Acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Methyl Acetate	Inhalation	blindness	Not classified		NOAEL Not available	
Methyl Acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Isopropyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
Isopropyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Ethyl Alcohol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethyl Alcohol	Inhalation	hematopoietic system immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethyl Alcohol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
Heptane	Inhalation	liver nervous	Not classified	Rat	NOAEL 12	26 weeks

		system kidney and/or bladder			mg/l	
Methyl Acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
Methyl Acetate	Inhalation	endocrine system hematopoietic system liver immune system kidney and/or bladder	Not classified	Rat	NOAEL 6.1 mg/l	28 days
Isopropyl Alcohol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
Isopropyl Alcohol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
Isopropyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks
Carbon Dioxide	Inhalation	heart bone, teeth, nails, and/or hair liver nervous system kidney and/or bladder respiratory system	Not classified	Rat	LOAEL 60,000 ppm	166 days

Aspiration Hazard

Name	Value
Heptane	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 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
Ethyl Alcohol	64-17-5	Fathead Minnow	Experimental	96 hours	LC50	14,200 mg/l
Ethyl Alcohol	64-17-5	Fish other	Experimental	96 hours	LC50	11,000 mg/l
Ethyl Alcohol	64-17-5	Green algae	Experimental	72 hours	EC50	275 mg/l
Ethyl Alcohol	64-17-5	Water flea	Experimental	48 hours	LC50	5,012 mg/l
Ethyl Alcohol	64-17-5	Green algae	Experimental	72 hours	ErC10	11.5 mg/l
Ethyl Alcohol	64-17-5	Water flea	Experimental	10 days	NOEC	9.6 mg/l
Methyl Acetate	79-20-9	Bacteria	Experimental	16 hours	EC50	6,000 mg/l
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	EC50	>120 mg/l

Methyl Acetate	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
Heptane	142-82-5	Water flea	Experimental	48 hours	EC50	1.5 mg/l
Heptane	142-82-5	Water flea	Estimated	21 days	NOEC	0.17 mg/l
Carbon Dioxide	124-38-9	Fish	Experimental	96 hours	LC50	112.2 mg/l
Carbon Dioxide	124-38-9	Atlantic Salmon	Experimental	43 days	NOEC	26 mg/l
Isopropyl Alcohol	67-63-0	Bacteria	Experimental	16 hours	LOEC	1,050 mg/l
Isopropyl Alcohol	67-63-0	Crustacea	Experimental	24 hours	LC50	>10,000 mg/l
Isopropyl Alcohol	67-63-0	Green Algae	Experimental	72 hours	EC50	>1,000 mg/l
Isopropyl Alcohol	67-63-0	Medaka	Experimental	96 hours	LC50	>100 mg/l
Isopropyl Alcohol	67-63-0	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
Isopropyl Alcohol	67-63-0	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
Isopropyl Alcohol	67-63-0	Water flea	Experimental	21 days	NOEC	100 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Ethyl Alcohol	64-17-5	Experimental Biodegradation	14 days	Biological Oxygen Demand	89 % BOD/ThOD	OECD 301C - MITI (I)
Methyl Acetate	79-20-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	70 % weight	OECD 301D - Closed Bottle Test
Heptane	142-82-5	Experimental Photolysis		Photolytic half-life (in air)	4.24 days (t _{1/2})	Non-standard method
Heptane	142-82-5	Experimental Biodegradation	28 days	Biological Oxygen Demand	101 % BOD/ThOD	OECD 301C - MITI (I)
Carbon Dioxide	124-38-9	Data not available - insufficient	N/A	N/A	N/A	N/A
Isopropyl Alcohol	67-63-0	Experimental Biodegradation	14 days	Biological Oxygen Demand	86 % BOD/ThOD	OECD 301C - MITI (I)

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Ethyl Alcohol	64-17-5	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	-0.35	Non-standard method
Methyl Acetate	79-20-9	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	0.18	Non-standard method
Heptane	142-82-5	Estimated		Bioaccumulation	105	Est: Bioconcentration

		Bioconcentration		n Factor		factor
Carbon Dioxide	124-38-9	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	0.83	Non-standard method
Isopropyl Alcohol	67-63-0	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	0.05	Non-standard method

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.

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