Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Industrial Safety and Health Law, 39-1 and 41

SECTION 1: Identification

1.1. Product identifier
Premium Industrial Cleaner PIC10

Product Identification Numbers
WX-4000-5956-3

MSDS No:AA00437-0000040034

1.2. Recommended use and restrictions on use

Recommended use
Adhesive Cleanser, citrus based adhesive removal

1.3. Supplier's details

Company:	3M Korea
ADDRESS:	19F, 82, Uisadang-daero, Yeongdeungpo-gu, Seoul, 150-705, Korea
Telephone:	82-2-3771-4114
Website:	www.3m.com/kr
Emergency Telephone:	82-80-033-4114

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Flammable Aerosol: Category 1.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Aspiration Hazard: Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
SIGNAL WORD
Danger

Symbols

Flame |Corrosion |Exclamation mark |Health Hazard |Environment |

Pictograms

HAZARD STATEMENTS

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H370	Causes damage to organs: cardiovascular system.
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.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280B	Wear protective gloves and eye/face protection.

Response:

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.
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.
P310	Immediately call a POISON CENTER or doctor/physician.
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.
P391	Collect spillage.

Storage:

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal:

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

2.3. Other hazards

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. 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. May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	Common Name	Identifier(s)	% by Wt
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Not Available	(CAS-No.) 64742-47-8 (KE-No.) KE-12550	28 - 38
Butane	N-BUTANE	(CAS-No.) 106-97-8 (KE-No.) KE-03751	18 - 28
SWEET ORANGE PEEL TINCTURE	Not Available	(CAS-No.) 8028-48-6 (KE-No.) KE-27409	13 - 23
Ethyl Lactate	Not Available	(CAS-No.) 97-64-3 (KE-No.) KE-20855	7 - 17
Propane	PROPYL HYDRIDE	(CAS-No.) 74-98-6 (KE-No.) KE-29258	5 - 15
Ethyl Alcohol	ALCOHOL	(CAS-No.) 64-17-5 (KE-No.) KE-13217	1 - 11

All composition of the product, excluding the listed components in the SDS do not fall under the harmful factors classification standards under K-OSHA.

SECTION 4: First aid measures

4.1. Description of first aid measures

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.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Inhalation:

Remove person to fresh air. 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
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	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Irritant Vapors or Gases	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
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. 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. 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. 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
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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 50°C/122°F. 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
Butane	106-97-8	ACGIH	STEL:1000 ppm	
Butane	106-97-8	Korea OELs	TWA(8 hours):800 ppm	
Natural gas	106-97-8	ACGIH	Limit value not established:	simple asphyxiant
Ethyl Alcohol	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.
Ethyl Alcohol	64-17-5	Korea OELs	TWA(8 hours):1000 ppm	
JET FUELS (NON-AEROSOL), AS TOTAL HYDROCARBON VAPOR	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Korea OELs : Korea. Standards for Exposure to Chemical Substances and Physically Hazardous Factors
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Engineering controls
Do not remain in area where available oxygen may be reduced. 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.

8.3. 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

Hand Protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

Body protection
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
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	Liquid
Specific Physical Form:	Aerosol
Color	Light Yellow
Odor	Orange, Citrus
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	100 ºC
Flash Point	42 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No Data Available*
Flammability	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	400,000 - 500,000 Pa [@ 30 ºC]
Vapor Density and/or Relative Vapor Density	*No Data Available*
Density	*No Data Available*
Relative Density	0.98 - 1.02 [*Details:*water=1]
Water solubility	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*
Molecular weight	*No Data Available*

Particle Characteristics	*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. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Avoid shock or friction.
Heat
High shear and high temperature conditions
Sparks and/or flames
Temperatures above the boiling point

10.5. Incompatible materials
Combustibles
Strong acids

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:
Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

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:
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 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.

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

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-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation-Vapor	Professional judgement	LC50 estimated to be 20 - 50 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Ingestion	Rat	LD50 > 5,000 mg/kg
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Dermal	similar compounds	LD50 > 2,000 mg/kg
Butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
SWEET ORANGE PEEL TINCTURE	Inhalation-Vapor (4 hours)	Mouse	LC50 > 3.14 mg/l
SWEET ORANGE PEEL TINCTURE	Dermal	Rabbit	LD50 > 5,000 mg/kg
SWEET ORANGE PEEL TINCTURE	Ingestion	Rat	LD50 4,400 mg/kg
Ethyl Lactate	Dermal	Professio	LD50 estimated to be 2,000 - 5,000 mg/kg

		nal judgeme nt	
Ethyl Lactate	Ingestion	Rat	LD50 > 2,000 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
Butane	Professio nal judgemen t	No significant irritation
Propane	Rabbit	Minimal irritation
SWEET ORANGE PEEL TINCTURE	Rabbit	Irritant
Ethyl Lactate	In vitro data	Irritant
Ethyl Alcohol	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
Butane	Rabbit	No significant irritation
Propane	Rabbit	Mild irritant
SWEET ORANGE PEEL TINCTURE	Rabbit	Mild irritant
Ethyl Lactate	In vitro data	Corrosive
Ethyl Alcohol	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
Overall product	N/A	Data not available or insufficient for classification
Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Guinea pig	Not classified
Butane	N/A	Data not available or insufficient for classification
Propane	N/A	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	Mouse	Sensitizing
Ethyl Alcohol	Human	Not classified

Photosensitization

Name	Species	Value
Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	N/A	Data not available or insufficient for classification
Butane	N/A	Data not available or insufficient for classification
Propane	N/A	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	N/A	Data not available or insufficient for classification
Ethyl Lactate	N/A	Data not available or insufficient for classification
Ethyl Alcohol	N/A	Data not available or insufficient for classification

Respiratory Sensitization

Name	Species	Value

Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	N/A	Data not available or insufficient for classification
Butane	N/A	Data not available or insufficient for classification
Propane	N/A	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	N/A	Data not available or insufficient for classification
Ethyl Lactate	N/A	Data not available or insufficient for classification
Ethyl Alcohol	N/A	Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Overall product	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	In Vitro	Not mutagenic
Butane	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic
SWEET ORANGE PEEL TINCTURE	In Vitro	Not mutagenic
SWEET ORANGE PEEL TINCTURE	In vivo	Not mutagenic
Ethyl Lactate	In Vitro	Not mutagenic
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

Carcinogenicity

Name	Route	Species	Value
Overall product	N/A	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Butane	N/A	N/A	Data not available or insufficient for classification
Propane	N/A	N/A	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Ethyl Lactate	N/A	N/A	Data not available or insufficient for classification
Ethyl Alcohol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Overall product	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
HYDROTREATED LIGHT PETROLEUM DISTILLATES	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Butane	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Propane	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
SWEET ORANGE PEEL TINCTURE	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
SWEET ORANGE PEEL TINCTURE	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Ethyl Lactate	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	premating into lactation
Ethyl Lactate	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	28 days
Ethyl Lactate	Ingestion	Not classified for development	Rat	LOAEL 75 mg/kg/day	premating into lactation
Ethyl Alcohol	Inhalation	Not classified for development	Rat	NOAEL 38	during

				mg/l	gestation
Ethyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation

Lactation

Name	Route	Species	Value
Overall product	N/A	N/A	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	N/A	N/A	Data not available or insufficient for classification
Butane	N/A	N/A	Data not available or insufficient for classification
Propane	N/A	N/A	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	N/A	N/A	Data not available or insufficient for classification
Ethyl Lactate	N/A	N/A	Data not available or insufficient for classification
Ethyl Alcohol	N/A	N/A	Data not available or insufficient for classification

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Overall product	N/A	N/A | N/A	Data not available or insufficient for classification	N/A	N/A	0
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	N/A
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	N/A
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Notavailable	N/A
Butane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	N/A
Butane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	N/A
Butane	Inhalation	heart	Not classified	Dog	NOAEL 5,000 ppm	25 minutes
Butane	Inhalation	respiratory irritation	Not classified	Rabbit	NOAEL Not available	N/A
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	N/A
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	N/A
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	N/A
SWEET ORANGE PEEL TINCTURE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	N/A
SWEET ORANGE PEEL TINCTURE	Ingestion	nervous system	Not classified		NOAEL Not available	N/A
Ethyl Lactate	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	N/A
Ethyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	N/Anot available
Ethyl Alcohol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	N/A
Ethyl Alcohol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	N/A
Ethyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	N/A

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Overall product	N/A	N/A	Data not available or insufficient for classification	N/A	N/A	0
HYDROTREATED LIGHT PETROLEUM DISTILLATES	N/A	N/A	Data not available or insufficient for classification	N/A	N/A	0
Butane	Inhalation	kidney and/or bladder | blood	Not classified	Rat	NOAEL 4,489 ppm	90 days
Propane	N/A	N/A	Data not available or insufficient for classification	N/A	N/A	0
SWEET ORANGE PEEL TINCTURE	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
SWEET ORANGE PEEL TINCTURE	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
SWEET ORANGE PEEL TINCTURE	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
Ethyl Lactate	Ingestion	gastrointestinal tract | hematopoietic system | immune system | kidney and/or bladder | nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
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

Aspiration Hazard

Name	Value
Overall product	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Aspiration hazard
Butane	Data not available or insufficient for classification
Propane	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	Aspiration hazard
Ethyl Lactate	Data not available or insufficient for classification
Ethyl Alcohol	Data not available or insufficient 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:
Not acutely toxic to aquatic life by GHS criteria.

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

Material	Organism	Type	Exposure	Test Endpoint	Test Result
Overall product	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Butane	106-97-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Ethyl Alcohol	64-17-5	Fathead Minnow	Experimental	96 hours	LC50	14,200 mg/l
Ethyl Alcohol	64-17-5	Fish	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	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
Ethyl Alcohol	64-17-5	Water flea	Experimental	48 hours	LC50	5,012 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Green algae	Estimated	72 hours	EC50	1 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Green algae	Estimated	72 hours	NOEL	1 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Rainbow Trout	Estimated	96 hours	LL50	2 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Water flea	Estimated	21 days	NOEL	0.48 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Water flea	Estimated	48 hours	EL50	1.4 mg/l
Propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
SWEET ORANGE PEEL TINCTURE	8028-48-6	Green algae	Experimental	72 hours	EL50	150 mg/l

SWEET ORANGE PEEL TINCTURE	8028-48-6	Green algae	Experimental	72 hours	NOEL	50 mg/l
SWEET ORANGE PEEL TINCTURE	8028-48-6	Water flea	Estimated	21 days	NOEC	0.08 mg/l
SWEET ORANGE PEEL TINCTURE	8028-48-6	Water flea	Experimental	48 hours	EL50	1.1 mg/l
SWEET ORANGE PEEL TINCTURE	8028-48-6	Zebra Fish	Experimental	96 hours	LL50	5.65 mg/l
Ethyl Lactate	97-64-3	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Ethyl Lactate	97-64-3	Green algae	Experimental	72 hours	EC50	3,500 mg/l
Ethyl Lactate	97-64-3	Green algae	Experimental	72 hours	NOEC	320 mg/l
Ethyl Lactate	97-64-3	Water flea	Experimental	48 hours	EC50	560 mg/l
Ethyl Lactate	97-64-3	Zebra Fish	Experimental	96 hours	LC50	320 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Overall product	None	DATA not available or insufficient for	N/A	N/A	N/A	N/A
Butane	106-97-8	Experimental Photolysis	N/A	Photolytic half-life (in air)	12.3 days (t 1/2)	N/A
Ethyl Alcohol	64-17-5	Experimental Biodegradation	14 days	Biological Oxygen Demand	89 %BOD/ThOD	OECD 301C - MITI (I)
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Propane	74-98-6	Experimental Photolysis	N/A	Photolytic half-life (in air)	27.5 days (t 1/2)	N/A
SWEET ORANGE PEEL TINCTURE	8028-48-6	Estimated Biodegradation	28 days	Carbon dioxide evolution	72 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
Ethyl Lactate	97-64-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	70 %BOD/ThOD	OECD 301F - Manometric Respiro
Ethyl Lactate	97-64-3	Experimental Photolysis	N/A	Photolytic half-life (in air)	8.1 days (t 1/2)	N/A

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Overall product	None	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Butane	106-97-8	Experimental Bioconcentration	N/A	Log of Octanol/H2O part. coeff	2.89	N/A
Ethyl Alcohol	64-17-5	Experimental Bioconcentration	N/A	Log of Octanol/H2O part. coeff	-0.35	N/A
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Propane	74-98-6	Experimental Bioconcentration	N/A	Log of Octanol/H2O part. coeff	2.36	N/A
SWEET ORANGE PEEL TINCTURE	8028-48-6	Estimated Bioconcentration	N/A	Bioaccumulation Factor	2100	N/A
Ethyl Lactate	97-64-3	Experimental Bioconcentration	N/A	Log of Octanol/H2O part. coeff	0.7	OECD 117 log Kow HPLC method

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

Material	CAS No.	Ozone Depletion Potential	Global Warming Potential
Overall product	None	Data not available or insufficient for classification	Data not available or insufficient for classification
Butane	106-97-8	Data not available or insufficient for classification	Data not available or insufficient for classification
Ethyl Alcohol	64-17-5	Data not available or insufficient for classification	Data not available or insufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Data not available or insufficient for classification	Data not available or insufficient for classification
Propane	74-98-6	Data not available or insufficient for classification	Data not available or insufficient for classification
SWEET ORANGE PEEL TINCTURE	8028-48-6	Data not available or insufficient for classification	Data not available or insufficient for classification
Ethyl Lactate	97-64-3	Data not available or	Data not available or insufficient

		insufficient for classification	for classification

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

13.2. Disposal Considerations (including disposal method for contaminated drums, barrels, or other packagings) :
Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

14.1 International Regulations

UN No.: Not applicable
UN Proper shipping name: Not applicable
Transportation Class (IMO): Not applicable
Transportation Class (IATA): Not applicable
Packing Group: Not applicable
Marine pollutant: Not applicable
User informed transportation or shipping and required safety plan: 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. 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.
Contact 3M Korea for more information.

This product may contain component(s) that are regulated by the following:

Occupational Safety and Health Act

Prohibited substance(s):Not Applicable
Substance(s) subject to management:Not Applicable
Substance(s) that require a permit:Not Applicable
Special management substance(s):Not Applicable
Workspace measurement substance(s):HYDROTREATED LIGHT PETROLEUM DISTILLATES(64742-47-8)
Substance(s) that require special medical examination:HYDROTREATED LIGHT PETROLEUM DISTILLATES(64742-47-8)
Substance(s) with exposure standards:Butane(106-97-8), Ethyl Alcohol(64-17-5)
Substance(s) that require observance of Permissible Level of Harmful Factor:Not Applicable
PSM reporting substance(s):Butane(106-97-8), SWEET ORANGE PEEL TINCTURE(8028-48-6), Ethyl Lactate(97-64-3), Propane(74-98-6), Ethyl Alcohol(64-17-5)

Chemical Substances Control Act

Toxic substance(s):Not Applicable
Chemical(s) requiring a permission:Not Applicable
Restricted substance(s):Not Applicable
Prohibited substance(s):Not Applicable
Substance(s) requiring preparation for accidents:Not Applicable

Act on the Safety Control of Hazardous Substances
Act on the Safety Control of Hazardous Substances:2th petroleum non-aquas liquid in 4th flammable liquid (threshold: 1,000 L, Danger category: III, Signal word: Caution on contact with sources of ignition)

Wastes Control Act
Waste Control Act: This product is classified as designated waste

Other domestic and abroad regulations:
Not Applicable

SECTION 16: Other information

16.1. References:
- 3M test data
- ACGIH(American Conference of Governmental Industrial Hygienists)
- Agency for Toxic Substances and Disease Registry
- American Industrial Hygiene Association
- Canadian Centre for Occupational Health and Safety
- ChemIDplus(Chemical Identification/Dictionary)
- CICADs(Concise International Chemical Assessment Documents)
- CRC Handbook
- DOT(Department of Transportation classifications)
- e-Chem Portal
- ECOSAR(Ecological Structure Activity Relationships)
- EHC(Environmental Health Criteria) Monographs
- Environmental Protection Agency
- ERG(emergency response guidebook)
- ESIS(European chemical Substances Information System)
- EU Proposals for Classification
- EU RAR(Risk Assessment Report)
- HSDB(Hazardous Substances Data Bank)
- IARC(International Agency for Research on Cancer) - Summaries and Evaluations
- ICSCs(International Chemical Safety Cards)
- IPCS INCHEM(International Programme on Chemical Safety)
- IRIS(Integrated Risk Information System)
- IUCLID(International Uniform Chemical Information Database)
- JECFA(Joint Expert Committee on Food Additives) - Monographs and Evaluations
- KOSHA
- NCIS(National Chemicals Information System)
- NIOSH(National Institute of Occupational Safety and Health) Pocket guide
- NITE (National Institute of Technology and Evaluation)
- NLM(National Library of Medicine)
- NTP(National Toxicity Program)
- Patty’s Toxicology
- PDs(Pesticide Documents)
- PIMs, 1989-2002(Poisons Information Monographs Archive)
- Pubchem
- QSAR(Quantitative(Qualitative) Structure Activity Relationship)

- REACH(ECHA Registered Substance)
- SIDS(Screening Information Data Set) for High Production Volume Chemicals
- Supplier test data/classification
- Toxic Substances Control Act Test Submissions
- Toxicology Excellence for Risk Assessment
- UN RTDG(Recommendations on the Transport of Dangerous Goods)

16.2. Initial creation date:2013/12/17
16.3. Revision frequency and final revision date:
Revision frequency :5
Final Revision Date :2024/06/13
16.4. Others: Not Applicable

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