

SAFETY DATA SHEET

1. Identification

Product identifier: EXTREME MOLY DRY FILM LUBRICANT

Other means of identification

SDS number: 80-730

Recommended restrictions

Product use: Lubricant

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Company Name: KIMBALL MIDWEST
Address: 4800 ROBERTS RD
COLUMBUS, OH 43228
Telephone: 1-800-233-1294

Emergency telephone number: Chemtrec: 1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol	Category 1
Gases under pressure	Liquefied gas

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3 ¹
Specific Target Organ Toxicity - Repeated Exposure	Category 2
Aspiration Hazard	Category 1

Target Organs

1. Narcotic effect.

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 2

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.
Toxic to aquatic life with long lasting effects.
Contains gas under pressure; may explode if heated.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Take off contaminated clothing. Collect spillage.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Naphtha (petroleum), hydrotreated light	64742-49-0	10 - <25%
2-Propanone	67-64-1	20 - <50%
Propane	74-98-6	10 - <20%
Butane	106-97-8	10 - <20%
Heptane	142-82-5	5 - <10%
Benzene, methyl-	108-88-3	3 - <5%
Distillates (petroleum), hydrotreated light	64742-47-8	1 - <5%
Ligroine	8032-32-4	1 - <5%
Molybdenum sulfide (MoS ₂)	1317-33-5	1 - <5%
Cyclohexane, methyl-	108-87-2	1 - <5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Call a physician or poison control center immediately. Rinse mouth. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms:	No data available.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	No data available.
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5. Fire-fighting measures

General Fire Hazards:	Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical:	Vapors may travel considerable distance to a source of ignition and flash back.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures:	Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling:	Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin.
Conditions for safe storage, including any incompatibilities:	Store locked up. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 3

8. Exposure controls/personal protection

Control Parameters Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Naphtha (petroleum), hydrotreated light	REL	100 ppm	400 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	100 ppm	400 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	PEL	100 ppm	400 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
2-Propanone	STEL	1,000 ppm	2,400 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	PEL	1,000 ppm	2,400 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	250 ppm		US. ACGIH Threshold Limit Values, as amended (03 2015)
	TWA	750 ppm	1,800 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	STEL	500 ppm		US. ACGIH Threshold Limit Values, as amended (03 2015)
	REL	250 ppm	590 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Propane	REL	1,000 ppm	1,800 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	PEL	1,000 ppm	1,800 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	1,000 ppm	1,800 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Butane	REL	800 ppm	1,900 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	STEL	1,000 ppm		US. ACGIH Threshold Limit Values, as amended (03 2018)
	TWA	800 ppm	1,900 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Heptane	TWA	400 ppm	1,600 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	REL	85 ppm	350 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	PEL	500 ppm	2,000 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	STEL	500 ppm	2,000 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	400 ppm		US. ACGIH Threshold Limit Values, as amended (02 2012)
	STEL	500 ppm		US. ACGIH Threshold Limit Values, as amended (02 2012)

	Ceil_ Time	440 ppm	1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Benzene, methyl-	STEL	150 ppm	560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	REL	100 ppm	375 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	TWA	100 ppm	375 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	Ceiling	300 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	TWA	20 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	TWA	200 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	MAX. CONC	500 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	STEL	150 ppm	560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Distillates (petroleum), hydrotreated light	REL		100 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Distillates (petroleum), hydrotreated light - Non-aerosol. - as total hydrocarbon vapor	TWA		200 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
	TWA		200 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
Molybdenum sulfide (MoS2) - Inhalable fraction. - as Mo	TWA		10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2009)
Molybdenum sulfide (MoS2) - Respirable fraction. - as Mo	TWA		3 mg/m3	US. ACGIH Threshold Limit Values, as amended (2009)
Molybdenum sulfide (MoS2) - Total dust. - as Mo	TWA		10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Cyclohexane, methyl-	PEL	500 ppm	2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	400 ppm	1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	400 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	REL	400 ppm	1,600 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Isopropyl Alcohol	STEL	500 ppm	1,225 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	TWA	200 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	REL	400 ppm	980 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	PEL	400 ppm	980 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	400 ppm	980 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	STEL	400 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	STEL	500 ppm	1,225 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Benzene, ethenylmethyl-	REL	100 ppm	480 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	TWA	100 ppm	480 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	50 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	STEL	100 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	PEL	100 ppm	480 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Benzene, 1,2,4-trimethyl-	TWA	25 ppm		US. ACGIH Threshold Limit Values, as amended (2008)
	TWA	25 ppm	125 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	REL	25 ppm	125 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Hexane	TWA	50 ppm	180 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	PEL	500 ppm	1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	REL	50 ppm	180 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)

	TWA	50 ppm	US. ACGIH Threshold Limit Values, as amended (2008)
Cyclohexane	TWA	100 ppm	US. ACGIH Threshold Limit Values, as amended (2008)
	TWA	300 ppm 1,050 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	REL	300 ppm 1,050 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	PEL	300 ppm 1,050 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Benzene, ethyl-	STEL	125 ppm 545 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	STEL	125 ppm 545 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	100 ppm 435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	20 ppm	US. ACGIH Threshold Limit Values, as amended (12 2010)
Crystalline Silica - Respirable dust.	REL	0.05 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
Crystalline Silica - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
Crystalline Silica - Respirable dust.	TWA	0.1 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Crystalline Silica - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Crystalline Silica - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Crystalline Silica - Respirable dust.	OSHA_A CT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Benzene	REL	0.1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)
	TWA	1 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	Ceiling	25 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	TWA	0.5 ppm	US. ACGIH Threshold Limit Values, as amended (2008)
	STEL	2.5 ppm	US. ACGIH Threshold Limit Values, as amended (2008)
	STEL	5 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (02 2006)
	OSHA_A CT	0.5 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (02 2006)
	TWA	10 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	MAX. CONC	50 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000), as amended (02 2006)
	STEL	5 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	1 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (02 2006)
	STEL	1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2005)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2-Propanone (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)
Benzene, methyl- (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEL (03 2013)
Benzene, methyl- (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Benzene, methyl- (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEL (03 2013)
Isopropyl Alcohol (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (Urine)	ACGIH BEL (03 2013)

Hexane (2,5-Hexanedion, without hydrolysis: Sampling time: End of shift.)	0.5 mg/l (Urine)	ACGIH BEL (03 2018)
Benzene, ethyl- (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)
Benzene (S-Phenylmercapturic acid: Sampling time: End of shift.)	25 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Benzene (t,t-Muconic acid: Sampling time: End of shift.)	500 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection
Hand Protection: No data available.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Avoid contact with eyes. Observe good industrial hygiene practices. When using do not smoke. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Spray Aerosol
Color: No data available.

Odor: No data available.

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: Estimated -104 °C

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): Estimated 9.5 %(V)

Flammability limit - lower (%): Estimated 1.9 %(V)

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: 1,723 - 3,102 hPa (20 °C)
4,136 - 5,515 hPa (54 °C)

Vapor density: No data available.

Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	ATEmix: 55,807.97 mg/kg
Dermal	
Product:	ATEmix: 5,736.46 mg/kg
Inhalation	
Product:	Not classified for acute toxicity based on available data.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	LC 50: > 100 mg/l
2-Propanone	LC 50 (Rat): 50.1 mg/l
Propane	LC 50: > 100 mg/l LC 50: > 100 mg/l
Butane	LC 50: > 100 mg/l LC 50: > 100 mg/l
Heptane	LC 50 (Rat): > 29.29 mg/l LC 50: > 100 mg/l
Benzene, methyl-	LC 50 (Rat): 28.1 mg/l LC 50: > 100 mg/l
Distillates (petroleum), hydrotreated light	LC 50: > 100 mg/l LC 50: > 100 mg/l
Ligroine	LC 50: > 100 mg/l LC 50: > 100 mg/l
Molybdenum sulfide (MoS ₂)	LC 50: > 100 mg/l LC 50: > 100 mg/l
Cyclohexane, methyl-	LC 50: > 100 mg/l LC 50: > 100 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	NOAEL (Rat(Female, Male), Inhalation): 10,000 mg/m ³ Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Oral, 13 Weeks): 1,250 mg/kg Oral Read-across based on grouping of substances (category approach), Key study NOAEL (Rat(Female, Male), Dermal, 28 d): > 375 mg/kg Dermal Experimental result, Supporting study
2-Propanone	NOAEL (Rat(Male), Oral, 13 Weeks): 10,000 ppm(m) Oral Experimental result, Key study
Propane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Butane	LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
Heptane	NOAEL (Rat(Male), Inhalation): 12,470 mg/m ³ Inhalation Experimental result, Key study
Benzene, methyl-	LOAEL (Rat(Female, Male), Oral, 13 Weeks): 1,250 mg/kg (Target Organ(s): Liver, Kidney) Oral Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation): 625 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation - vapor): 2,355 mg/l Inhalation Experimental result, Key study
Distillates (petroleum), hydrotreated light	NOAEL (Rat(Female, Male), Inhalation): >= 24 mg/m ³ Inhalation Experimental result, Key study NOAEL (Rat(Female), Oral, 70 - 147 d): 750 mg/kg Oral Experimental result, Key study

Ligroine	NOAEL (Rat(Female, Male), Inhalation, 4 - 20 Weeks): 10,032 mg/m3 Inhalation Experimental result, Supporting study
Cyclohexane, methyl-	NOAEL (Rat(Female, Male), Dermal, 5 - 28 d): 3,750 mg/kg Dermal Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation): 1,600 mg/m3 Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Oral, 28 d): 1,000 mg/kg Oral Experimental result, Key study NOAEL (Rat(Female, Male), Oral, 28 d): 250 mg/kg Oral Experimental result, Key study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	In vitro (Human): not corrosive Experimental result, Supporting study
2-Propanone	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Heptane	in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
Benzene, methyl-	in vivo (Rabbit): Irritating Experimental result, Key study
Distillates (petroleum), hydrotreated light	in vivo (Rabbit): Not irritant Experimental result, Key study
Ligroine	In vitro (Human): classification not possible based on data Experimental result, Supporting study in vivo (Rabbit): Study design not appropriate to classify skin irritation. Experimental result, Supporting study In vitro (Human): not corrosive Experimental result, Supporting study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	Rabbit, 24 - 72 hrs: Not irritating
2-Propanone	Irritating. Rabbit, 24 hrs: Minimum grade of severe eye irritant
Heptane	Rabbit, 24 - 72 hrs: Not irritating
Benzene, methyl-	Rabbit, 24 - 72 hrs: Not irritating
Distillates (petroleum), hydrotreated light	Rabbit, 24 - 72 hrs: Not irritating
Ligroine	Rabbit, 24 - 72 hrs: Not irritating
Cyclohexane, methyl-	Rabbit, 0.5 - 168 hrs: Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	Skin sensitization:, in vivo (Guinea pig): Non sensitising
2-Propanone	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Heptane	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Benzene, methyl-	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Distillates (petroleum), hydrotreated light	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Ligroine	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Cyclohexane, methyl-	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product:	No data available.
Specified substance(s):	
Cyclohexane, methyl-	May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro	
Product:	No data available.

In vivo	
Product:	No data available.

Reproductive toxicity

Product:	No data available.
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Specified substance(s):	
Benzene, methyl-	Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product:	No data available.
Specified substance(s):	
2-Propanone	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.
Heptane	Narcotic effect. - Category 3 with narcotic effects.
Benzene, methyl-	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.
Cyclohexane, methyl-	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure

Product:	No data available.
Specified substance(s):	
Benzene, methyl-	Category 2

Target Organs

Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard

Product:	No data available.
Specified substance(s):	
Naphtha (petroleum), hydrotreated light	May be fatal if swallowed and enters airways.
Heptane	May be fatal if swallowed and enters airways.
Benzene, methyl-	May be fatal if swallowed and enters airways.
Distillates (petroleum), hydrotreated light	May be fatal if swallowed and enters airways.
Ligroine	May be fatal if swallowed and enters airways.
Cyclohexane, methyl-	May be fatal if swallowed and enters airways.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	LC 50 (96 h): 8.41 mg/l Experimental result, Key study
2-Propanone	LC 50 (Oncorhynchus mykiss, 96 h): 5,540 mg/l Experimental result, Key study
Propane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Butane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Benzene, methyl-	LC 50 (Oncorhynchus kisutch, 96 h): 5.5 mg/l Experimental result, Key study
Cyclohexane, methyl-	LC 50 (Oryzias latipes, 96 h): 2.07 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	EC 50 (Daphnia magna, 48 h): 4.5 mg/l Experimental result, Key study
2-Propanone	LC 50 (Daphnia pulex, 48 h): 8,800 mg/l Experimental result, Key study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Benzene, methyl-	LC 50 (Water flea (Daphnia magna), 48 h): 54.6 - 174.7 mg/l Mortality LC 50 (Ceriodaphnia dubia, 2 d): 3.78 mg/l Experimental result, Key study
Ligroine	EC 50 (Daphnia magna, 48 h): 4.5 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	NOAEL (Daphnia magna): 2.6 mg/l Other, Key study
Benzene, methyl-	NOAEL (Oncorhynchus kisutch): 1.39 mg/l Experimental result, Key study LOAEL (Oncorhynchus kisutch): 2.77 mg/l Experimental result, Key study
Distillates (petroleum), hydrotreated light	NOAEL (Oncorhynchus mykiss): 0.098 mg/l QSAR QSAR, Key study
Ligroine	NOAEL (Daphnia magna): 2.6 mg/l Other, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	EC 50 (Daphnia magna): 10 mg/l Experimental result, Key study
2-Propanone	LOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study NOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study
Benzene, methyl-	LOAEL (Ceriodaphnia dubia): 2.76 mg/l Experimental result, Key study NOAEL (Ceriodaphnia dubia): 0.74 mg/l Experimental result, Key study
Ligroine	NOAEL (Daphnia magna): 2.6 mg/l Experimental result, Key study

**Toxicity to Aquatic Plants
Product:**

No data available.

Persistence and Degradability

**Biodegradation
Product:**

No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	95 % (10 d) The 10-day window requirement is fulfilled. 90.35 % (28 d) Detected in water. Experimental result, Supporting study
2-Propanone	90.9 % (28 d) Detected in water. Experimental result, Key study
Propane	100 % (385.5 h) Detected in water. Experimental result, Key study 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
Butane	100 % (385.5 h) Detected in water. Experimental result, Key study
Benzene, methyl-	100 % (14 d) Detected in water. Experimental result, Weight of Evidence study 86 % Detected in water. Experimental result, Weight of Evidence study
Distillates (petroleum), hydrotreated light	61 % Detected in water. Experimental result, Supporting study
Cyclohexane, methyl-	> 0 % (28 d) Detected in water. Experimental result, Weight of Evidence study > 0 % (28 d) Detected in water. Experimental result, Weight of Evidence study

**BOD/COD Ratio
Product:**

No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study
2-Propanone	Haddock, adult, Bioconcentration Factor (BCF): 0.69 Aquatic sediment Experimental result, Not specified
Benzene, methyl-	Leuciscus idus, Bioconcentration Factor (BCF): 90 Aquatic sediment Experimental result, Key study
Ligroine	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study

Cyclohexane, methyl-

Cyprinus carpio, Bioconcentration Factor (BCF): > 95 - < 321 Aquatic sediment Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light Log Kow: > 2.4 - < 5.7 23 °C Yes Experimental result, Key study

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Naphtha (petroleum), hydrotreated light	No data available.
2-Propanone	No data available.
Propane	No data available.
Butane	No data available.
Heptane	No data available.
Benzene, methyl-	No data available.
Distillates (petroleum), hydrotreated light	No data available.
Ligroine	No data available.
Molybdenum sulfide (MoS ₂)	No data available.
Cyclohexane, methyl-	No data available.

Other adverse effects: Toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	—
Packing Group:	—
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	–
EmS No.:	F-D, S-U
Packing Group:	–
Environmental Hazards:	Yes
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es):	
Class:	2.1
Label(s):	–
Packing Group:	–
Environmental Hazards:	Yes
Marine Pollutant	No
Special precautions for user:	Not regulated.
Cargo aircraft only:	Allowed.

15. Regulatory information

US Federal Regulations

Restrictions on use: Not known.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
Crystalline Silica	lung effects immune system effects Cancer
Benzene	kidney effects Flammability Cancer Aspiration Eye Blood Skin respiratory tract irritation Central nervous system

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
2-Propanone	lbs. 5000
Propane	lbs. 100
Butane	lbs. 100
Heptane	lbs. 100
Benzene, methyl-	lbs. 1000
Cyclohexane, methyl-	lbs. 100
Isopropyl Alcohol	lbs. 100
Hexane	lbs. 5000
Cyclohexane	lbs. 1000

Benzene, ethyl- lbs. 1000
Benzene lbs. 10

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable (gases, aerosols, liquids, or solids)
Skin Corrosion or Irritation
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration Hazard

SARA 302 Extremely Hazardous Substance

<u>Chemical Identity</u>	<u>Reportable quantity</u>	<u>Threshold Planning Quantity</u>
2-Propanone		
Distillates (petroleum), hydrotreated light		
Hexane		

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
SARA 313 (TRI Reporting)	

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Benzene, methyl-	lbs	lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Naphtha (petroleum), hydrotreated light
2-Propanone
Propane
Butane
Heptane
Benzene, methyl-
Distillates (petroleum), hydrotreated light
Ligroine
Cyclohexane, methyl-

US. Massachusetts RTK - Substance List

Chemical Identity
Crystalline Silica
Benzene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Naphtha (petroleum), hydrotreated light
2-Propanone
Propane
Butane
Heptane

Benzene, methyl-
Distillates (petroleum), hydrotreated light
Ligroine
Cyclohexane, methyl-

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

2-Propanone
Distillates (petroleum), hydrotreated light

Stockholm convention

2-Propanone
Distillates (petroleum), hydrotreated light

Rotterdam convention

2-Propanone
Distillates (petroleum), hydrotreated light

Kyoto protocol

Inventory Status:

Australia AICS:	Not in compliance with the inventory.
Canada DSL Inventory List:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision
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Issue Date:	02/04/2022
Revision Information:	No data available.
Version #:	1.0
Further Information:	No data available.
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.