

SAFETY DATA SHEET

1. Identification

Product identifier: RAYMOND PRECISION CONTACT CLEANER

Other means of identification

SDS number: RE1000040339

Recommended restrictions

Product Use: Cleaner

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: RAYMOND CORPORATION
Address: 6650 KIRKVILLE ROAD
EAST SYRACUSE, NY 13057
Telephone: 1-315-463-5000
Fax:

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol Category 1

Health Hazards

Skin Corrosion/Irritation Category 2

Toxic to reproduction Category 2

Specific Target Organ Toxicity -
Single Exposure Category 3¹

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

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.
Causes skin 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.

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. 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 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.

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	50 - <100%
Hexane	110-54-3	25 - <50%
2-Propanol	67-63-0	5 - <10%
Cyclohexane	110-82-7	1 - <5%
Benzene	71-43-2	0 - <0.1%
Heptane	142-82-5	0 - <0.1%
Benzene, methyl-	108-88-3	0 - <0.1%

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

4. First-aid measures

- Ingestion:** Rinse mouth. Call a physician or poison control center immediately. 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.

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.

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.

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: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: 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. 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	PEL	100 ppm 400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
	TWA PEL	300 ppm 1,350 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (01 2015)
	STEL	400 ppm 1,800 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (01 2015)
	TWA	100 ppm 400 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	REL	100 ppm 400 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	ST ESL	3,500 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11

			2016)
	AN ESL	350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	100 ppm 400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Hexane	TWA PEL	50 ppm 180 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	TWA	50 ppm 180 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	50 ppm 180 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	500 ppm 1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	REL	50 ppm 180 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	50 ppm	US. ACGIH Threshold Limit Values (2008)
	AN ESL	200 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	6,200 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	57 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	1,700 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
2-Propanol	REL	400 ppm 980 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	400 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	500 ppm 1,225 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm 1,225 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	400 ppm 980 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	PEL	400 ppm 980 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	400 ppm 980 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm 1,225 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL	200 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	2,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	STEL	500 ppm 1,225 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	200 ppm	US. ACGIH Threshold Limit Values (2008)
	TWA PEL	400 ppm 980 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL	492 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	4,920 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Cyclohexane	TWA	100 ppm	US. ACGIH Threshold Limit Values (2008)
	ST ESL	3,400 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	300 ppm 1,050 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	300 ppm 1,050 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	300 ppm 1,050 mg/m3	US. NIOSH: Pocket Guide to Chemical

			Hazards (2005)
	PEL	300 ppm 1,050 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA PEL	300 ppm 1,050 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL	340 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	1,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Benzene	REL	0.1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	1 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	25 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	STEL	1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA A LV	0.5 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL	1.4 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	0.5 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	25 ppm	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	5 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	1 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	STEL	5 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	TWA PEL	1 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	ST ESL	170 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	10 ppm	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	53 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	STEL	2.5 ppm	US. ACGIH Threshold Limit Values (2008)
	STEL	5 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	OSHA_A C T	0.5 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	TWA	10 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	50 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	AN ESL	4.5 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	Ceiling	50 ppm	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Heptane	TWA	400 ppm 1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm 2,000 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	REL	85 ppm 350 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

	STEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	400 ppm	US. ACGIH Threshold Limit Values (02 2012)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (02 2012)
	TWA	400 ppm 1,600 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	10,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	2,700 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	2,400 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	Ceil_Time	440 ppm 1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA PEL	400 ppm 1,600 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	STEL	500 ppm 2,000 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL	660 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Benzene, methyl-	STEL	150 ppm 560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA PEL	10 ppm 37 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	REL	100 ppm 375 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	100 ppm 375 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	150 ppm 560 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	TWA	20 ppm	US. ACGIH Threshold Limit Values (2008)
	Ceiling	500 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL	1,200 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	ST ESL	4,500 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	STEL	150 ppm 580 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	1,200 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	100 ppm 375 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm 560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	AN ESL	320 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Hexane (2,5-Hexanedion, without hydrolysis: Sampling time: End of shift.)	0.5 mg/l (Urine)	ACGIH BEL (03 2018)
2-Propanol (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (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)
Benzene (S-Phenylmercapturic acid: Sampling time: End of shift.)	25 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)
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)

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. 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 suitable protective clothing. 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: 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:	-50 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
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: Not classified for acute toxicity based on available data.

Specified substance(s):

Naphtha (petroleum),
hydrotreated light LD 50 (Rat): > 5,000 mg/kg

Hexane LD 50: > 2,000 mg/kg

2-Propanol LD 50 (Rat): 5.84 g/kg

Cyclohexane LD 50 (Rat): > 5,000 mg/kg

Benzene LD 50 (Rat): 5,970 mg/kg

Heptane LD 50 (Rat): > 5,000 mg/kg

Benzene, methyl- LD 50 (Rat): 5,580 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	LD 50 (Rabbit): > 3,750 mg/kg
Hexane	LD 50 (Rabbit): > 2,000 mg/kg
2-Propanol	LD 50: > 2,000 mg/kg
Cyclohexane	LD 50 (Rabbit): > 2,000 mg/kg
Benzene	LD 50: > 2,000 mg/kg
Heptane	LD 50 (Rabbit): > 2,000 mg/kg
Benzene, methyl-	LD 50 (Rabbit): > 5,000 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	LOAEL (Human): 2,400 mg/m ³ LC 50 (Rat): > 7,630 mg/m ³
Hexane	LC 50 (Rat): > 31.86 mg/l
2-Propanol	LC 50: > 5 mg/l LC 50: > 20 mg/l
Cyclohexane	LC 50 (Rat): > 32,880 mg/m ³
Benzene	LC 50 (Rat): 43,767 mg/m ³
Heptane	LC 50 (Rat): > 29.29 mg/l
Benzene, methyl-	LC 50 (Rat): 28.1 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	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 NOAEL (Rat(Female, Male), Inhalation): 10,000 mg/m ³ Inhalation
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Hexane	Experimental result, Key study NOAEL (Mouse(Male), Inhalation, 13 Weeks): 500 ppm(m) Inhalation Experimental result, Key study LOAEL (Mouse(Male), Inhalation, 13 Weeks): 1,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Male), Inhalation, 16 Weeks): 3,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Mouse(Female), Inhalation, 13 Weeks): 500 ppm(m) Inhalation
2-Propanol	NOAEL (Rat, Inhalation, >= 104 Weeks): 5,000 ppm(m) Inhalation Experimental result, Key study
Cyclohexane	NOAEL (Rat(Female, Male), Inhalation, 13 - 18 Weeks): 7,000 ppm(m) Inhalation Experimental result, Key study NOAEL (Mouse(Female, Male), Inhalation, 13 - 18 Weeks): 500 ppm(m) Inhalation Experimental result, Key study
Benzene	NOAEL (Rat(Male), Oral, 120 d): 100 mg/kg Oral Experimental result, Key study NOAEL (Mouse(Female, Male), Inhalation, 7 - 91 d): 96 mg/m3 Inhalation Experimental result, Key study LOAEL (Rat(Female), Oral, 120 d): 25 mg/kg Oral Experimental result, Key study
Heptane	NOAEL (Rat(Male), Inhalation): 12,470 mg/m3 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

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

2-Propanol	in vivo (Rabbit): Not Classified Experimental result, Key study
Cyclohexane	Review (Various): Irritating. in vivo (Rabbit): Not irritant Experimental result, Weight of Evidence study
Benzene	in vivo (Rabbit): Irritating Experimental result, Key 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

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	Rabbit, 24 - 72 hrs: Not irritating
Hexane	Rabbit, 1 - 72 hrs: Not irritating
2-Propanol	Rabbit, 1 d: Irritating.

Benzene	Rabbit: Irritating
Heptane	Rabbit, 24 - 72 hrs: Not irritating
Benzene, methyl-	Rabbit, 24 - 72 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-Propanol	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Cyclohexane	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

Carcinogenicity

Product: No data available.

Specified substance(s):

Benzene	Cancer hazard - can cause cancer.
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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):

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.

Specified substance(s):

Hexane	Suspected of damaging fertility or the unborn child.
Benzene, methyl-	Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure

Product: 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.
Cyclohexane	May be fatal if swallowed and enters airways.
Benzene	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.

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
Hexane	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 2.101 - 2.981 mg/l Mortality
2-Propanol	LC 50 (<i>Pimephales promelas</i> , 96 h): 9,640 mg/l Experimental result, Key study
Cyclohexane	LC 50 (<i>Pimephales promelas</i> , 96 h): 4.53 mg/l Experimental result, Key study
Benzene	LC 50 (<i>Oncorhynchus mykiss</i> , 96 h): 5.3 mg/l Experimental result, Key study
Heptane	LC 50 (Mozambique tilapia (<i>Tilapia mossambica</i>), 96 h): 375 mg/l Mortality
Benzene, methyl-	LC 50 (<i>Oncorhynchus kisutch</i> , 96 h): 5.5 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Naphtha (petroleum), hydrotreated light	EC 50 (<i>Daphnia magna</i> , 48 h): 4.5 mg/l Experimental result, Key study
Hexane	EC 50 (<i>Daphnia magna</i> , 48 h): 21.85 mg/l QSAR QSAR, Key study LC 50 (<i>Water flea (Daphnia magna)</i> , 24 h): > 50 mg/l Mortality
2-Propanol	LC 50 (<i>Daphnia magna</i> , 24 h): > 10,000 mg/l Experimental result, Key study
Cyclohexane	EC 50 (<i>Daphnia magna</i> , 48 h): 0.9 mg/l Experimental result, Key study
Benzene	EC 50 (<i>Daphnia magna</i> , 24 h): 10 mg/l Experimental result, Key study
Heptane	EC 50 (<i>Daphnia magna</i> , 48 h): 1.5 mg/l Experimental result, 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

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Naphtha (petroleum),
hydrotreated light EC 50 (Daphnia magna): 10 mg/l Other, Key study
NOAEL (Daphnia magna): 2.6 mg/l Other, Key study

Hexane NOAEL (Oncorhynchus mykiss): 2.8 mg/l QSAR QSAR, Key study

Benzene LOAEL (Pimephales promelas): 1.6 mg/l Experimental result, Key study
LC 50 (Oncorhynchus mykiss): 8.64 mg/l Experimental result, Supporting
study

Heptane NOAEL (Oncorhynchus mykiss): 1.284 mg/l QSAR QSAR, 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

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Naphtha (petroleum),
hydrotreated light EC 50 (Daphnia magna): 10 mg/l Experimental result, Key study
NOAEL (Daphnia magna): 2.6 mg/l Experimental result, Key study

Hexane NOAEL (Daphnia magna): 4.888 mg/l QSAR QSAR, Key study

Benzene NOAEL (Daphnia magna): 98 mg/l Not specified, Not specified

Heptane NOAEL (Daphnia magna): 0.17 mg/l Read-across based on grouping of
substances (category approach), Key study
EC 50 (Daphnia magna): 0.23 mg/l Read-across based on grouping of
substances (category approach), 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

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Naphtha (petroleum),
hydrotreated light 90.35 % (28 d) Detected in water. Experimental result, Supporting study

Hexane 81 % Detected in water. Read-across based on grouping of substances
(category approach), Key study

2-Propanol 53 % (5 d) Detected in water. Experimental result, Key study

Cyclohexane	77 % (28 d) Detected in water. Experimental result, Key study
Benzene	4 - 88 % (28 d) Detected in water. Experimental result, Supporting study 81 % Detected in water. Experimental result, Key study
Heptane	70 % 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

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
Hexane	Pimephales promelas, Bioconcentration Factor (BCF): 501.19 Aquatic sediment QSAR, Key study
Cyclohexane	Cyprinus carpio, Bioconcentration Factor (BCF): 37 - 129 Aquatic sediment Experimental result, Supporting study
Benzene	Northern anchovy (Engraulis mordax), Bioconcentration Factor (BCF): 505 (Static) Engraulis mordax; Morone saxatilis, Bioconcentration Factor (BCF): 309 Aquatic sediment Experimental result, Supporting study
Heptane	Bioconcentration Factor (BCF): 552 Aquatic sediment Estimated by calculation, Key study
Benzene, methyl-	Leuciscus idus, Bioconcentration Factor (BCF): 90 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 Log Kow: 2.2 - 5.2 23 °C Yes Experimental result, Key study Log Kow: 2.2 - 6.1 23 °C Yes Experimental result, Key study
Benzene	Log Kow: 1.56 - 2.15 25 °C No Not specified, Not specified

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Naphtha (petroleum), hydrotreated light	No data available.
Hexane	No data available.
2-Propanol	No data available.
Cyclohexane	No data available.
Benzene	No data available.
Heptane	No data available.
Benzene, methyl-	No data available.

Other adverse effects: Toxic to aquatic organisms.

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:	II
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
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

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

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

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

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Hexane	lbs. 5000
2-Propanol	lbs. 100
Cyclohexane	lbs. 1000
Benzene	lbs. 10
Heptane	lbs. 100
Benzene, methyl-	lbs. 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable aerosol
Skin Corrosion/Irritation
Toxic to reproduction
Specific Target Organ Toxicity - Single Exposure
Specific Target Organ Toxicity - Repeated Exposure
Aspiration Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Hexane	lbs. 5000
2-Propanol	lbs. 100
Cyclohexane	lbs. 1000
Benzene	lbs. 10
Heptane	lbs. 100
Benzene, methyl-	lbs. 1000

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Naphtha (petroleum), hydrotreated light	10000 lbs
Hexane	10000 lbs
2-Propanol	10000 lbs
Cyclohexane	10000 lbs
Benzene	10000 lbs
Heptane	10000 lbs
Benzene, methyl-	10000 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Hexane	lbs	lbs.
2-Propanol	lbs	lbs.
Cyclohexane	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

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Hexane	Male reproductive toxin. 12 2017
Benzene	Developmental toxin. 03 2008
Benzene	Carcinogenic. 05 2011
Benzene	Male reproductive toxin. 03 2008
Benzene, methyl-	Developmental toxin. 03 2008

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

Chemical Identity

Naphtha (petroleum), hydrotreated light
Hexane
Ethane, 1,1-difluoro-
2-Propanol
Cyclohexane

US. Massachusetts RTK - Substance List

Chemical Identity

Benzene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Naphtha (petroleum), hydrotreated light
Hexane
2-Propanol
Cyclohexane

US. Rhode Island RTK

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

International regulations

Montreal protocol

Ethane, 1,1-difluoro-

Group I Annex F

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Inventory Status:

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

16. Other information, including date of preparation or last revision

Issue Date: 06/28/2019

Revision Information: No data available.

SDS_US - RE1000040339

20/21

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.