SAFETY DATA SHEET

1. Identification

Product identifier: SP5315 Premium Starting Fluid

Other means of identification
SDS number: RE1000036690

Recommended restrictions
Product Use: Starting Fluid
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Castle Products, Inc.
Address:	424 St. Paul St. Rochester, NY 14605
Telephone:	1-800-876-0222
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
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]
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.
May cause cancer.
May cause drowsiness or dizziness.
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. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. 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 (%)*
Ethane, 1,1'-oxybis-	60-29-7	50 - <100%
Naphtha (petroleum), hydrotreated light	64742-49-0	25 - <50%
Heptane	142-82-5	10 - <20%
Carbon dioxide	124-38-9	1 - <5%
Cyclohexane, methyl-	108-87-2	1 - <5%
Distillates, Petroleum, Hydrotreated Light Naphthenic	64742-53-6	0.1 - <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. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. 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. 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
Ethane, 1,1'-oxybis-	TWA	400 ppm	1,200 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	400 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	500 ppm	1,500 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	400 ppm	1,200 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	500 ppm		US. ACGIH Threshold Limit Values (2008)
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)
	REL	100 ppm	400 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	100 ppm	400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Heptane	TWA	400 ppm	1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	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)
	Ceil_Time	440 ppm	1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Carbon dioxide	TWA	5,000 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	30,000 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	30,000 ppm	54,000 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL	5,000 ppm	9,000 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	5,000 ppm	9,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	10,000 ppm	18,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	30,000 ppm	54,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Cyclohexane, methyl-	PEL	500 ppm	2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	400 ppm	1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	400 ppm		US. ACGIH Threshold Limit Values (2008)
	REL	400 ppm	1,600 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Distillates, Petroleum, Hydrotreated Light Naphthenic	TWA	400 ppm	1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	500 ppm	2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Distillates, Petroleum, Hydrotreated Light Naphthenic - Mist.	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA		5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL		10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL		5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Distillates, Petroleum, Hydrotreated Light Naphthenic	Ceil_Time		1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL		350 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Distillates, Petroleum, Hydrotreated Light Naphthenic - Inhalable fraction.	TWA		5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Benzene, methyl-	STEL	150 ppm	560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	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)
	Ceiling	300 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	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)
	STEL	150 ppm	560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Hexane	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)
Cyclohexane	TWA	100 ppm		US. ACGIH Threshold Limit Values (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)
Benzene, ethyl-	STEL	125 ppm	545 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	125 ppm	545 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (12 2010)
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	TWA		10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- - Inhalable fraction and vapor.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2008)
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	REL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
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)
	TWA	0.5 ppm	US. ACGIH Threshold Limit Values (2008)
	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_ACT	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)
	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	1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards (2005)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
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)
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. 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: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Wash contaminated clothing before reuse. Avoid contact with skin.

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:	-45 °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:	5,860.5436 - 7,239.4951 hPa (20 °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: 2,390.92 mg/kg

Dermal

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

Specified substance(s):

Ethane, 1,1'-oxybis-	LD 50 (Rabbit): > 20,000 mg/kg
Naphtha (petroleum), hydrotreated light	LD 50 (Rabbit): > 3,750 mg/kg
Heptane	LD 50 (Rabbit): > 2,000 mg/kg
Cyclohexane, methyl-	LD 50 (Rabbit): > 2,000 mg/kg
Distillates, Petroleum, Hydrotreated Light Naphthenic	LD 50 (Rabbit): > 5,000 mg/kg

Inhalation

Product: ATEmix: 416.76 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Ethane, 1,1'-oxybis-	NOAEL (Rat(Female, Male), Oral, 13 Weeks): 500 mg/kg Oral Experimental result, Weight of Evidence study NOAEL (Rat(Female, Male), Inhalation, 13 Weeks): 3,300 ppm(m) Inhalation Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study
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/m3 Inhalation Experimental result, Key study
Heptane	NOAEL (Rat(Male), Inhalation): 12,470 mg/m3 Inhalation Experimental result, Key study
Cyclohexane, methyl-	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 NOAEL (Rat(Female, Male), Inhalation): 1,600 mg/m3 Inhalation Experimental result, Key study
Distillates, Petroleum, Hydrotreated Light Naphthenic	NOAEL (Rat(Female, Male), Inhalation): 220 mg/m3 Inhalation Experimental result, Key study
	NOAEL (Rabbit(Female, Male), Dermal): 1,000 mg/kg Dermal Experimental result, Key study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Ethane, 1,1'-oxybis-	in vivo (Rabbit): Not irritant Experimental result, Key study
Heptane	in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
Distillates, Petroleum, Hydrotreated Light Naphthenic	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Ethane, 1,1'-oxybis-	Rabbit, 24 - 72 hrs: Not Classified
Naphtha (petroleum), hydrotreated light	Rabbit, 24 - 72 hrs: Not irritating
Heptane	Rabbit, 24 - 72 hrs: Not irritating
Cyclohexane, methyl-	Rabbit, 0.5 - 168 hrs: Not irritating
Distillates, Petroleum, Hydrotreated Light Naphthenic	Rabbit, 48 hrs: Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

Ethane, 1,1'-oxybis-	Not sensitising
Naphtha (petroleum), hydrotreated light	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Heptane	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Cyclohexane, methyl-	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Distillates, Petroleum, Hydrotreated Light Naphthenic	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:

Distillates, Petroleum, Hydrotreated Light Naphthenic	Overall evaluation: 3. Not classifiable as to carcinogenicity to humans. Overall evaluation: 1. Carcinogenic to humans.

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

Distillates, Petroleum, Hydrotreated Light Naphthenic	Known To Be Human Carcinogen.

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.

Specific Target Organ Toxicity - Single Exposure

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

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s):

Cyclohexane, methyl-	Category 1

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.
Cyclohexane, methyl-	May be fatal if swallowed and enters airways.
Distillates, Petroleum, Hydrotreated Light Naphthenic	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):

Ethane, 1,1'-oxybis-	LC 50 (Pimephales promelas, 96 h): 2,560 mg/l Experimental result, Weight of Evidence study
Naphtha (petroleum), hydrotreated light	LC 50 (96 h): 8.41 mg/l Experimental result, Key study
Heptane	LC 50 (Mozambique tilapia (Tilapia mossambica), 96 h): 375 mg/l Mortality
Cyclohexane, methyl-	LC 50 (Oryzias latipes, 96 h): 2.07 mg/l Experimental result, Key study
Distillates, Petroleum, Hydrotreated Light Naphthenic	LL 50 (Pimephales promelas, 96 h): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethane, 1,1'-oxybis-	IC 50 (Daphnia magna, 48 h): 1,380 mg/l Experimental result, Weight of Evidence study
Naphtha (petroleum), hydrotreated light	EC 50 (Daphnia magna, 48 h): 4.5 mg/l Experimental result, Key study
Heptane	EC 50 (Daphnia magna, 48 h): 1.5 mg/l Experimental result, Key study
Cyclohexane, methyl-	EC 50 (Daphnia magna, 48 h): 0.326 mg/l Experimental result, Key study ED 0 (Daphnia magna, 48 h): 0.037 mg/l Experimental result, Key study
Distillates, Petroleum, Hydrotreated Light Naphthenic	NOAEL (Daphnia magna, 48 h): >= 10,000 mg/l Experimental result, Key study EC 50 (Daphnia magna, 48 h): > 10,000 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
Heptane	NOAEL (Oncorhynchus mykiss): 1.284 mg/l QSAR QSAR, Key study
Distillates, Petroleum, Hydrotreated Light Naphthenic	NOAEL (Oncorhynchus mykiss): >= 1,000 mg/l QSAR QSAR, Supporting study

Aquatic

Invertebrates

Product:	No data available.
Specified substance(s):	
Ethane, 1,1'-oxybis-	LOAEL (Daphnia magna): > 100 mg/l Experimental result, Key study NOAEL (Daphnia magna): 100 mg/l Experimental result, Key study
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
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
Distillates, Petroleum, Hydrotreated Light Naphthenic	NOAEL (Daphnia magna): 10 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):	
Ethane, 1,1'-oxybis-	> 0 % (240 h) Detected in water. Experimental result, Weight of Evidence study
Naphtha (petroleum), hydrotreated light	90.35 % (28 d) Detected in water. Experimental result, Supporting study
Heptane	70 % Detected in water. Experimental result, Key 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
Distillates, Petroleum, Hydrotreated Light Naphthenic	31 % (28 d) Detected in water. Experimental result, Supporting study 2 - 8 % (28 d) Detected in water. Experimental result, Supporting study

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.
Specified substance(s):	
Ethane, 1,1'-oxybis-	Bioconcentration Factor (BCF): 2.29 Aquatic sediment QSAR, Weight of Evidence study
Naphtha (petroleum), hydrotreated light	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study
Heptane	Bioconcentration Factor (BCF): 552 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 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

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Ethane, 1,1'-oxybis-	No data available.
Naphtha (petroleum), hydrotreated light	No data available.
Heptane	No data available.
Carbon dioxide	No data available.
Cyclohexane, methyl-	No data available.
Distillates, Petroleum, Hydrotreated Light Naphthenic	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

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)

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

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Ethane, 1,1'-oxybis-	lbs. 100
Heptane	lbs. 100
Cyclohexane, methyl-	lbs. 100
Benzene, methyl-	lbs. 1000
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 aerosol
Skin Corrosion/Irritation
Carcinogenicity
Specific Target Organ Toxicity - Single Exposure
Aspiration Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Hexane		

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Ethane, 1,1'-oxybis-	lbs. 100
Heptane	lbs. 100
Cyclohexane, methyl-	lbs. 100
Benzene, methyl-	lbs. 1000
Hexane	lbs. 5000
Cyclohexane	lbs. 1000
Benzene, ethyl-	lbs. 1000
Benzene	lbs. 10

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Ethane, 1,1'-oxybis-	10000 lbs
Naphtha (petroleum), hydrotreated light	10000 lbs
Heptane	10000 lbs
Carbon dioxide	10000 lbs
Cyclohexane, methyl-	10000 lbs
Distillates, Petroleum, Hydrotreated Light Naphthenic	10000 lbs
Benzene, methyl-	10000 lbs
Hexane	10000 lbs
Cyclohexane	10000 lbs
Benzene, ethyl-	10000 lbs
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	10000 lbs
Benzene	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

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.

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

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

Chemical Identity
Ethane, 1,1'-oxybis-
Naphtha (petroleum), hydrotreated light
Heptane
Carbon dioxide
Cyclohexane, methyl-
Distillates, Petroleum, Hydrotreated Light Naphthenic

US. Massachusetts RTK - Substance List

Chemical Identity
Distillates, Petroleum, Hydrotreated Light Naphthenic
Benzene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Ethane, 1,1'-oxybis-
Naphtha (petroleum), hydrotreated light
Heptane
Carbon dioxide
Cyclohexane, methyl-

US. Rhode Island RTK

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

International regulations

Montreal protocol

Not applicable

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:	Not 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:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Mexico INSQ:	Not 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:	10/11/2019
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.