SAFETY DATA SHEET

Petra Fuel/GDI Cleaner

1. Identification

Product identifier: PN 2008

Other means of identification: Petra Fuel/GDI Cleaner

Recommended restrictions
Recommended use: Sample
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Petra Oil Company, Inc.
Address:	11085 Regency Green Drive Cypress, TX 77429

Emergency telephone number: CHEMTREC 800-424-9300 (24 hours)
International 703-527-3887

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol	Category 1

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 2
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Repeated Exposure	Category 2

Environmental Hazards

Acute hazards to the aquatic environment	Category 2

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:

Extremely flammable aerosol.
Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye irritation.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
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. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. 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 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 (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store locked up.

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 (%)*
Benzene, dimethyl-	1330-20-7	10 - <20%
Dodecanoic acid, methyl ester	111-82-0	10 - <20%
Pyrrolidine, 1-methyl-	120-94-5	10 - <20%
2-Propanol	67-63-0	10 - <20%
Propane	74-98-6	10 - <20%
Butane	106-97-8	5 - <10%
Benzene, ethyl-	100-41-4	5 - <10%
Benzene, methyl-	108-88-3	0.1 - <1%

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

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

Inhalation:	Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.
Skin Contact:	Symptoms may be delayed. Important to remove the substance from the skin immediately. Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Call a physician or poison control center immediately. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy or thoroughly clean contaminated shoes.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.
Ingestion:	Rinse mouth. Call a physician or poison control center immediately. Never give liquid to an unconscious person. Do not induce vomiting without advice from poison control center.
Personal Protection for First-aid Responders:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

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:	Symptoms may be delayed.

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.
Accidental release measures:	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.
Methods and material for containment and cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
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

Handling

Technical measures (e.g. Local and general ventilation):	No data available.
Safe handling advice:	Do not taste or swallow. 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. Avoid contact with eyes. 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 get in eyes, on skin, on clothing.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	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
Safe packaging materials:	No data available.
Storage Temperature:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Benzene, dimethyl-	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	TWA	100 ppm		US. ACGIH Threshold Limit Values, as amended
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	STEL	150 ppm	655 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	STEL	150 ppm		US. ACGIH Threshold Limit Values, as amended
	STEL	150 ppm	655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
2-Propanol	STEL	500 ppm	1,225 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	TWA	200 ppm		US. ACGIH Threshold Limit Values, as amended
	REL	400 ppm	980 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	400 ppm	980 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	TWA	400 ppm	980 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	STEL	400 ppm		US. ACGIH Threshold Limit Values, as amended
	STEL	500 ppm	1,225 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
Propane	REL	1,000 ppm	1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	TWA	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
Butane	REL	800 ppm	1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	STEL	1,000 ppm		US. ACGIH Threshold Limit Values, as amended
	TWA	800 ppm	1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
Benzene, ethyl-	STEL	125 ppm	545 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	STEL	125 ppm	545 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	TWA	20 ppm		US. ACGIH Threshold Limit Values, as amended
Benzene, methyl-	STEL	150 ppm	560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	REL	100 ppm	375 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	TWA	100 ppm	375 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	Ceiling	300 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended
	TWA	20 ppm		US. ACGIH Threshold Limit Values, as amended
	TWA	200 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended
	MAX. CONC	500 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000), as amended
	STEL	150 ppm	560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Furan, tetrahydro-	STEL	250 ppm	735 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	STEL	100 ppm		US. ACGIH Threshold Limit Values, as amended
	REL	200 ppm	590 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	STEL	250 ppm	735 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	200 ppm	590 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	TWA	50 ppm		US. ACGIH Threshold Limit Values, as amended
	TWA	200 ppm	590 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
Ammonium hydroxide ((NH4)(OH))	STEL	35 ppm		US. ACGIH Threshold Limit Values, as amended
	TWA	25 ppm		US. ACGIH Threshold Limit Values, as amended
	STEL	35 ppm	27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

	STEL	35 ppm	27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	REL	25 ppm	18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	50 ppm	35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Benzene, dimethyl- (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL
2-Propanol (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (Urine)	ACGIH BEL
Benzene, ethyl- (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL
Benzene, methyl- (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEL
Benzene, methyl- (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEL
Benzene, methyl- (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEL
Furan, tetrahydro- (tetrahydrofuran: Sampling time: End of shift.)	2 mg/l (Urine)	ACGIH BEL

Exposure guidelines

Furan, tetrahydro-	US. ACGIH Threshold Limit Values, as amended	Can be absorbed through the skin.

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: No data available.

Skin and Body Protection: 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. Do not eat, drink or smoke when using the product. Wash hands after handling. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. 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. Do not get this material in 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.

Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	Estimated -104.44 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Explosive limit - upper (%):	Estimated 9.5 %(V)
Explosive limit - lower (%):	Estimated 1.9 %(V)
Vapor pressure:	3,447 - 4,826 hPa (20 °C)
Vapor density (air=1):	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	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:	Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes severe skin burns.
Eye contact:	Causes serious eye irritation.
Ingestion:	Harmful if swallowed.

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: 1,099.21 mg/kg

Dermal
Product: ATEmix: 3,177.03 mg/kg

Inhalation
Product: ATEmix: 29.13 mg/l Vapour
ATEmix : 7 mg/l Dusts, mists and fumes

Repeated dose toxicity
Product: No data available.

Components:

Benzene, dimethyl-	NOAEL (Rat(Female), Oral, 90 d): 150 mg/kg Oral Experimental result, Key study
Dodecanoic acid, methyl ester	NOAEL (Rat(Female, Male), Oral, 91 d): 5,500 mg/kg Oral Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study NOAEL (Rat(Female, Male), Oral, 41 - 55 d): 1,000 mg/kg Oral Experimental result, Key study LOAEL (Rat(Male), Oral, 12 Weeks): 1 %(m) Oral Experimental result, Disregarded study NOAEL (Rat(Male), Oral, 2 yr): 6,000 mg/kg Oral Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study NOAEL (Rat(Female, Male), Oral, 41 - 55 d): 1,000 mg/kg Oral Experimental result, Weight of Evidence study
2-Propanol	NOAEL (Rat, Inhalation, >= 104 Weeks): 5,000 ppm(m) Inhalation 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
Benzene, ethyl-	NOAEL (Mouse(Female, Male), Inhalation, 104 Weeks): 75 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Oral, 28 d): 75 mg/kg Oral 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.

Components:

Benzene, dimethyl-	in vivo (Rabbit): Moderate irritant estimated Irritating.
Dodecanoic acid, methyl ester	in vivo (Rabbit): Not irritant in vivo (Rabbit): Category 2; H315; Xi, R38 in vivo (Rabbit): Not irritant in vivo (Rabbit): Irritating
Pyrrolidine, 1-methyl-	Assessment Corrosive
2-Propanol	in vivo (Rabbit): Not Classified
Benzene, methyl-	in vivo (Rabbit): Irritating

Serious Eye Damage/Eye Irritation

Product: No data available.

Components:

Benzene, dimethyl-	Rabbit, 1 hrs: Slightly irritating (Not Classified)
Dodecanoic acid, methyl ester	Rabbit, 24 hrs: Not irritating Rabbit, 24 - 72 hrs: Not irritating Rabbit, 24 - 72 hrs: Not irritating
Pyrrolidine, 1-methyl-	Irritating.
2-Propanol	Rabbit, 1 d: Category 2: Causes serious eye irritation Irritating.
Benzene, methyl-	Rabbit, 24 - 72 hrs: Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Components:

Dodecanoic acid, methyl ester	Skin sensitization:, in vivo (Guinea pig): Not sensitising
2-Propanol	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Benzene, ethyl-	Skin sensitization:, in vivo (Human): Non sensitising
Benzene, methyl-	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Benzene, ethyl-	Overall evaluation: 2B. Possibly carcinogenic to humans.
Furan, tetrahydro-	Overall evaluation: 2B. Possibly carcinogenic to humans.

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

Benzene, ethyl-	Overall evaluation: 2B. Possibly carcinogenic to humans.
Furan, tetrahydro-	Overall evaluation: 2B. Possibly carcinogenic to humans.

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: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:

2-Propanol	Narcotic effect. - Category 3 with narcotic effects.
Benzene, methyl-	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:

Benzene, ethyl-	Category 2
Benzene, methyl-	Category 2

Aspiration Hazard

Product: No data available.

Components:

Benzene, ethyl-	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.

Components:

Dodecanoic acid, methyl ester	LC 0 (Leuciscus idus, 48 h): 980 mg/l Experimental result, Supporting study LC 50 (Leuciscus idus, 48 h): 1,666 mg/l Experimental result, Supporting study LC 100 (Leuciscus idus, 48 h): 3,000 mg/l Experimental result, Supporting study LC 50 (Oryzias latipes, 96 h): > 0.52 mg/l Experimental result, Key study LC 50 (Oryzias latipes, 96 h): > 1 mg/l Experimental result, Key study
Pyrrolidine, 1-methyl-	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 36.5 mg/l Mortality
2-Propanol	LC 50 (Pimephales promelas, 96 h): 9,640 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, ethyl-	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 38.9 - 62.83 mg/l Mortality
Benzene, methyl-	LC 50 (Oncorhynchus kisutch, 96 h): 5.5 mg/l Experimental result, Key study

Aquatic Invertebrates

Product:	No data available.
Components:	
Dodecanoic acid, methyl ester	EC 50 (Daphnia magna, 48 h): 0.255 mg/l Experimental result, Key study EC 50 (Daphnia magna, 24 h): 0.296 mg/l Experimental result, Key study NOAEL (Daphnia magna, 48 h): 0.102 mg/l Experimental result, Key study
Pyrrolidine, 1-methyl-	EC 50 (Water flea (Daphnia pulex), 48 h): 4.64 mg/l Intoxication
2-Propanol	LC 50 (Daphnia magna, 24 h): > 10,000 mg/l Experimental result, Key study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Benzene, ethyl-	LC 50 (Water flea (Daphnia magna), 24 h): 57 - 100 mg/l Mortality
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.
Components:	
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.
Components:	
Dodecanoic acid, methyl ester	LC 50 (Daphnia magna): 0.252 mg/l Experimental result, Key study NOAEL (Daphnia magna): 0.0814 mg/l Experimental result, Key study EC 50 (Daphnia magna): 0.22 mg/l Experimental result, Key study
Benzene, ethyl-	LC 50 (Ceriodaphnia dubia): 3.2 mg/l Other, Key study NOAEL (Ceriodaphnia dubia): 1 mg/l Other, 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.
Components:	
Benzene, dimethyl-	87.8 % Detected in water. Read-across from supporting substance (structural analogue or surrogate), Key study
Dodecanoic acid, methyl ester	78 % (28 d) Detected in water. Experimental result, Key study
Pyrrolidine, 1-methyl-	Expected to be inherently biodegradable.

2-Propanol	53 % (5 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, ethyl-	2.7 % Detected in water. Other, Supporting study 70 - 80 % (28 d) 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.

Components:

Benzene, dimethyl-	Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.6 - < 21.6 Aquatic sediment Experimental result, Key study
Dodecanoic acid, methyl ester	Lepomis macrochirus, Bioconcentration Factor (BCF): < 17 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study Oncorhynchus mykiss, Bioconcentration Factor (BCF): 63 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study Oncorhynchus mykiss, Bioconcentration Factor (BCF): 56 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study Various, Bioconcentration Factor (BCF): 154.3 Aquatic sediment QSAR, Weight of Evidence study Chlorella fusca var.vacuolata; Leuciscus idus melanotus; Activated sludge, Bioconcentration Factor (BCF): < 10 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study
Benzene, ethyl-	Carassius auratus, Bioconcentration Factor (BCF): 15.5 Aquatic sediment Other, Supporting 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.

Components:

Benzene, dimethyl-	Log Kow: 2.77 - 3.15 No Not specified, Not specified
Pyrrolidine, 1-methyl-	Log Kow: 1.1
Benzene, ethyl-	Log Kow: 3.13 - 3.14 No Other, Supporting study

Mobility in soil: No data available.

Components:

Benzene, dimethyl-	No data available.
Dodecanoic acid, methyl ester	No data available.
Pyrrolidine, 1-methyl-	No data available.
2-Propanol	No data available.
Propane	No data available.
Butane	No data available.
Benzene, ethyl-	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, Corrosive
Transport Hazard Class(es)	
Class:	2.1
Subsidiary Risk:	8
Label(s)	2.1, 8
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, Corrosive
Transport Hazard Class(es)	
Class:	2
Subsidiary Risk:	8
Label(s)	2.1, 8
EmS No.:	F-D, S-U
Packing Group:	–
Environmental Hazards:	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, Flammable, corrosive, containing substances in Class 8, Packing Group III
Transport Hazard Class(es):	
Class:	2.1
Label(s)	2.1, 8
Subsidiary Risk:	8
Packing Group:	–
Environmental Hazards:	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)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity
XYLENE (MIXED)
UNLISTED HAZARDOUS WASTES CHARACTERISTIC OF IGNITABILITY
RCRA HAZARDOUS WASTE NO. D001
ETHYLBENZENE
BENZENE, METHYL-
FURAN, TETRAHYDRO-
TETRAHYDROFURAN
AMMONIUM HYDROXIDE

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), Acute toxicity (any route of exposure), Skin Corrosion or Irritation, Serious eye damage or eye irritation, Carcinogenicity, Reproductive toxicity, Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Chemical Identity	% by weight
Benzene, dimethyl-	1.0%
2-Propanol	1.0%
Benzene, ethyl-	0.1%

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

Chemical Identity
Propane
Butane

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

Chemical Identity
Benzene, dimethyl-
Benzene, ethyl-
Benzene, methyl-
Ammonium hydroxide ((NH4)(OH))

US State Regulations

US. California Proposition 65

WARNING: This product can expose you to chemicals including, Benzene, ethyl-which is [are] known to the State of California to cause cancer.

This product can expose you to chemicals including, Benzene, methyl- which is [are] known to the State of California to cause birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov.

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

Chemical Identity
Benzene, dimethyl-
Pyrrolidine, 1-methyl-
2-Propanol
Propane
Butane
Benzene, ethyl-

US. Massachusetts RTK - Substance List

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

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Benzene, dimethyl-
Pyrrolidine, 1-methyl-
2-Propanol
Propane
Butane
Benzene, ethyl-
9-Octadecenoic acid (9Z)-

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
Not applicable

Inventory Status:

Australia AICS	On or in compliance with the inventory
Canada DSL Inventory List	Not in compliance with the inventory.
Canada NDSL Inventory	Not in compliance with the inventory.
Ontario Inventory	On or in compliance with the inventory
China Inv. Existing Chemical Substances	On or 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	On or in compliance with the inventory
Philippines PICCS	On or in compliance with the inventory
Taiwan Chemical Substance Inventory	On or 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

Issue Date:	08/27/2020
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.