PETRA FUEL SYSTEM CLEANER 12 FL.OZ.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/18/2019 : Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : PETRA FUEL SYSTEM CLEANER 12 FL.OZ.

Product code : 2002B

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Fuel System Cleaner

1.3. Details of the supplier of the safety data sheet

Petra Oil Company
6100 West by Northwest Blvd. Ste. 190
Ste 190
Houston, TX 77040
T 713-856-5700

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 3	H226
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Irrit. 2	H315
Carc. 1A	H350
Repr. 2	H361
STOT SE 3	H336
STOT RE 2	H373

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H226 - Flammable liquid and vapor
H312+H332 - Harmful in contact with skin or if inhaled
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :
P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat,sparks,open flames,hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, ventilating, lighting equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust,fumes,gas,mist,vapor spray
P261 - Avoid breathing dust,fume,gas,mist,vapor spray
P264 - Wash affected areas thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P302+P352 - If on skin: Wash with plenty of soap and water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.

P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment: See section 4.1 on SDS
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P370+P378 - In case of fire: See Section 5.1 Extinguishing Media
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Xylene, Mixture of Isomers	(CAS No) 1330-20-7	46.4 - 58	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315
1-Methoxy-2-Propanol	(CAS No) 107-98-2	19.9 - 20	Flam. Liq. 3, H226 STOT SE 3, H336
Ethylbenzene	(CAS No) 100-41-4	8.7 - 11.6	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304
Distillates (Petroleum), Hydrotreated Light	(CAS No) 64742-47-8	10 - 30	Asp. Tox. 1, H304
Distillates (Petroleum), Sweetened Middle	(CAS No) 64741-86-2	4.8 - 5.988	Carc. 1A, H350
Polyether Amine	(CAS No) Confidential	3.6 - 4.788	Flam. Liq. 4, H227
Naphtha, Heavy Aromatic	(CAS No) 64742-94-5	<= 0.588	Carc. 1B, H350 Asp. Tox. 1, H304
Toluene	(CAS No) 108-88-3	0.058 - 0.29	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
2-Methylnaphthalene	(CAS No) 91-57-6	< 0.15288	Acute Tox. 4 (Oral), H302
2-Methoxypropanol	(CAS No) 1589-47-5	0 - 0.1	Flam. Liq. 3, H226
1-Methylnaphthalene	(CAS No) 90-12-0	< 0.0735	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302
Naphthalene	(CAS No) 91-20-3	< 1	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
	TOTAL	100%	

The exact percentage is a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Suspected of damaging fertility or the unborn child. Causes damage to organs.

Symptoms/injuries after inhalation	:	Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause cancer by inhalation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	:	Itching. Red skin. Skin rash/inflammation. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	:	May cause slight eye irritation . Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	:	May be fatal if swallowed and enters airways. May be harmful if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Flammable liquid and vapor.
Explosion hazard	:	May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

Firefighting instructions	:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Safety glasses.
Emergency procedures	:	Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	:	Equip cleanup crew with proper protection. Avoid breathing dust,fume,gas,mist,vapor spray.
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.
Methods for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Avoid breathing dust,fume,gas,mist,vapor spray. Obtain special instructions . Do not handle until all safety precautions have been read and understood.
Hygiene measures	:	Wash affected areas thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment.

Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1-Methylnaphthalene (90-12-0)		
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm (1-methylnaphthalene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

2-Methylnaphthalene (91-57-6)		
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm (2-methylnaphthalene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

Naphtha, Heavy Aromatic (64742-94-5)		
USA ACGIH	ACGIH TWA (mg/m³)	25 mg/m³ 1-METHYLNAPHTHALENE
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm 1-METHYLNAPHTHALENE

Ethylbenzene (100-41-4)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	125 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	435 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	100
USA OSHA	OSHA PEL (STEL) (mg/m³)	545 mg/m³
USA OSHA	OSHA PEL (STEL) (ppm)	125 ppm

Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m³)	75 mg/m³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

Distillates (Petroleum), Hydrotreated Light (64742-47-8)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm 8 Hours

8.2. Exposure controls

Appropriate engineering controls	:	Local exhaust venilation, vent hoods . Ensure good ventilation of the work station.
Personal protective equipment	:	Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection	:	Wear protective gloves.
Eye protection	:	Chemical goggles or safety glasses.
Skin and body protection	:	Wear suitable protective clothing.
Respiratory protection	:	Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Colourless to light yellow.
Odor	:	Characteristic.
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available

Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	57.8 °C (Lowest Component)
Flash point	:	25 °C (Lowest Component)
Auto-ignition temperature	:	464 °C (Lowest Component)
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	0.87
Solubility	:	Insoluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

VOC content : 78 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Dermal: Harmful in contact with skin. Inhalation:dust,mist: Harmful if inhaled.

1-Methylnaphthalene (90-12-0)	
LD50 oral rat	1840 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit; Literature study)

2-Methylnaphthalene (91-57-6)	
LD50 oral rat	1630 mg/kg (Rat)

Naphthalene (91-20-3)	
ATE CLP (oral)	500.000 mg/kg body weight

Naphtha, Heavy Aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (Rat)

1-Methoxy-2-Propanol (107-98-2)	
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value; Other)

2-Methoxypropanol (1589-47-5)	
LD50 oral rat	5710 mg/kg (Rat)

Xylene, Mixture of Isomers (1330-20-7)	
LD50 oral rat	3523 - 8600 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 3523 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; >4000 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 4200.000000 mg/kg (Rabbit; Experimental value,Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	29 mg/l/4h (Rat; Experimental value; 27.57 mg/l/4h; Rat; Experimental value)

Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg (Rat; Other; Experimental value)
LD50 dermal rabbit	15415 mg/kg (Rabbit; Literature study; Other; 15432 mg/kg; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	17.8 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	4000 ppm/4h (Rat; Literature study)

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)

Distillates (Petroleum), Hydrotreated Light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.28 mg/l/4h Based on lack of mortality and systemic effects

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Naphtha, Heavy Aromatic (64742-94-5)	
IARC group	2B
National Toxicology Program (NTP) Status	3

Xylene, Mixture of Isomers (1330-20-7)	
IARC group	3

Ethylbenzene (100-41-4)	
IARC group	2B

Toluene (108-88-3)	
IARC group	3

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful in contact with skin. Harmful if inhaled.

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause cancer by inhalation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Itching. Red skin. Skin rash/inflammation. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. Causes skin irritation.

Symptoms/injuries after eye contact : May cause slight eye irritation . Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. May be harmful if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

1-Methylnaphthalene (90-12-0)	
LC50 fish 1	8.4 mg/l (LC50; 48 h; Salmo fario)
EC50 Daphnia 1	1.848 mg/l (LC50; 48 h)
LC50 fish 2	9 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 2	1.2 mg/l (EC50; 48 h)
Threshold limit algae 1	1.71 - 5.12,EC50; 3 h
Threshold limit algae 2	1200 µg/l (EC50; 14 days)

2-Methylnaphthalene (91-57-6)	
LC50 fish 1	8 mg/l (LC50; 96 h)

Naphtha, Heavy Aromatic (64742-94-5)	
EC50 Daphnia 1	0.95 mg/l (EC50; 48 h)
LC50 fish 2	2.34 mg/l (LC50; 96 h; Oncorhynchus mykiss)
Threshold limit algae 2	2.5 mg/l (EC50; 72 h)

1-Methoxy-2-Propanol (107-98-2)	
Threshold limit algae 1	> 1000 mg/l (EC50; Other; 168 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

Ethylbenzene (100-41-4)	
LC50 fish 2	4.2 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Salmo gairdneri; Semi-static system; Fresh water; Experimental value)

12.2. Persistence and degradability

PETRA FUEL SYSTEM CLEANER 12 FL.OZ.	
Persistence and degradability	Not established.

Distillates (Petroleum), Sweetened Middle (64741-86-2)	
Persistence and degradability	Not established.

1-Methylnaphthalene (90-12-0)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water.

2-Methylnaphthalene (91-57-6)	
Persistence and degradability	Inherently biodegradable. Not readily biodegradable in water.

Naphthalene (91-20-3)	
Persistence and degradability	May cause long-term adverse effects in the environment.

Naphtha, Heavy Aromatic (64742-94-5)	
Persistence and degradability	Not readily biodegradable in water.

Polyether Amine (Confidential)	
Persistence and degradability	Not established.

1-Methoxy-2-Propanol (107-98-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photodegradation in the air.
ThOD	1.95 g O_2 /g substance

2-Methoxypropanol (1589-47-5)	
Persistence and degradability	Biodegradability in water: no data available.

Xylene, Mixture of Isomers (1330-20-7)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Photolysis in the air.

Ethylbenzene (100-41-4)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	1.44 g O_2 /g substance (20d.)
Chemical oxygen demand (COD)	2.1 g O_2 /g substance
ThOD	3.17 g O_2 /g substance
BOD (% of ThOD)	45.4 (20 days)

Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O_2 /g substance
Chemical oxygen demand (COD)	2.52 g O_2 /g substance
ThOD	3.13 g O_2 /g substance
BOD (% of ThOD)	0.69

Distillates (Petroleum), Hydrotreated Light (64742-47-8)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

PETRA FUEL SYSTEM CLEANER 12 FL.OZ.	
Bioaccumulative potential	Not established.

Distillates (Petroleum), Sweetened Middle (64741-86-2)	
Bioaccumulative potential	Not established.

1-Methylnaphthalene (90-12-0)	
BCF fish 1	20 (BCF; 5 weeks)
BCF fish 2	113-2000,BCF; 1 - 2 weeks
Log Pow	3.87 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-Methylnaphthalene (91-57-6)	
BCF fish 1	407 (BCF; 624 h; Lepomis macrochirus)
BCF fish 2	190 (BCF; 840 h; Oncorhynchus kisutch)
Log Pow	3.86 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Naphthalene (91-20-3)	
Bioaccumulative potential	Not established.

Naphtha, Heavy Aromatic (64742-94-5)	
Log Pow	2.9 - 6.1
Bioaccumulative potential	Bioaccumable.

Polyether Amine (Confidential)	
Bioaccumulative potential	Not established.

1-Methoxy-2-Propanol (107-98-2)	
BCF fish 1	1 (BCF)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-Methoxypropanol (1589-47-5)	
Log Pow	-0.49 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.

Xylene, Mixture of Isomers (1330-20-7)	
BCF fish 2	7 - 26 (BCF; 8 weeks; Oncorhynchus mykiss; Flow-through system; Fresh water)
Log Pow	3.2 (Conclusion by analogy; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Ethylbenzene (100-41-4)	
BCF fish 1	1 (BCF; Other; 6 weeks; Oncorhynchus kisutch; Flow-through system; Salt water; Literature study)
BCF fish 2	15 - 79 (BCF)
BCF other aquatic organisms 1	4.68 (BCF)
Log Pow	3.15 (Experimental value; 3.6; Experimental value; EU Method A.8: Partition Coefficient; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Toluene (108-88-3)	
BCF fish 2	90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Distillates (Petroleum), Hydrotreated Light (64742-47-8)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

1-Methylnaphthalene (90-12-0)	
Log Koc	Koc,2300

1-Methoxy-2-Propanol (107-98-2)	
Surface tension	0.0707 N/m (20 °C; 1 g/l)

Xylene, Mixture of Isomers (1330-20-7)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

Ethylbenzene (100-41-4)	
Surface tension	0.029 N/m
Log Koc	log Koc,PCKOCWIN v1.66; 2.71; Calculated value; Koc; PCKOCWIN v1.66; 517.8; Calculated value

Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1993, Flammable liquids, n.o.s. (Xylene, Petroleum Distillates), 3, III, Limited Quantity

ICAO/IATA (air): UN1993, Flammable liquids, n.o.s. (Xylene, Petroleum Distillates), 3 , III, Limited Quantity

IMO/IMDG (water): UN1993, Flammable liquids, n.o.s. (Xylene, Petroleum Distillates), 3 , III, Limited Quantity

Special Provisions: B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (Xylene, Petroleum Distillates)

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid

DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

PETRA FUEL SYSTEM CLEANER 12 FL.OZ.	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

Naphthalene (91-20-3)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard

Naphtha, Heavy Aromatic (64742-94-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	14 % Naphthalene (CAS 91-20-3)

Xylene, Mixture of Isomers (1330-20-7)	
SARA Section 311/312 Hazard Classes	Fire hazard

Ethylbenzene (100-41-4)	
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Delayed (chronic) health hazard

Toluene (108-88-3)	
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard

Distillates (Petroleum), Hydrotreated Light (64742-47-8)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

PETRA FUEL SYSTEM CLEANER 12 FL.OZ.	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Naphthalene (91-20-3)	
WHMIS Classification	Class B Division 4 - Flammable Solid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Naphtha, Heavy Aromatic (64742-94-5)

Ethylbenzene (100-41-4)
Listed on the Canadian DSL (Domestic Sustances List)

Toluene (108-88-3)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Distillates (Petroleum), Hydrotreated Light (64742-47-8)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

Ethylbenzene (100-41-4)

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.2; R45
Xn; R20/21
Xi; R38
R10

Full text of R-phrases: see section 16

15.2.2. National regulations

Naphtha, Heavy Aromatic (64742-94-5)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Canadian NDSL (Non-Domestic Substances List) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECI (Korean Existing Chemicals Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Ethylbenzene (100-41-4)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECI (Korean Existing Chemicals Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Toluene (108-88-3)

15.3. US State regulations

PETRA FUEL SYSTEM CLEANER 12 FL.OZ.	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Distillates (Petroleum), Sweetened Middle (64741-86-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

1-Methylnaphthalene (90-12-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

2-Methylnaphthalene (91-57-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Naphthalene (91-20-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Naphtha, Heavy Aromatic (64742-94-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	Yes	Yes	

Polyether Amine (Confidential)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

1-Methoxy-2-Propanol (107-98-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

2-Methoxypropanol (1589-47-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Xylene, Mixture of Isomers (1330-20-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Ethylbenzene (100-41-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

Toluene (108-88-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	Yes	No	

Distillates (Petroleum), Hydrotreated Light (64742-47-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

Naphthalene (91-20-3)

State or local regulations

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Naphtha, Heavy Aromatic (64742-94-5)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
Illinois Right to Know
Louisiana Right to Know
Michigan Right to Know
Minnesota Right-to-Know
New Jersey Right-to-Know
U.S. - Pennsylvania - RTK (Right to Know) List
Rhode Island Right to Know

Ethylbenzene (100-41-4)

State or local regulations

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

Toluene (108-88-3)

State or local regulations

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
U.S. - New Jersey - Special Health Hazards Substances List
New Jersey Right-to-Know
U.S. - Massachusetts - Right To Know List
Rhode Island Right to Know
U.S. - Michigan - Critical Materials List
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - Illinois - Toxic Air Contaminants
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

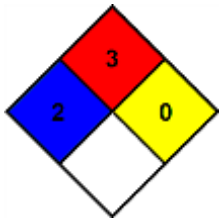
SECTION 16: Other information

Other information : None.

Full text of H-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard	:	2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard	:	3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity	:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	:	2 Moderate Hazard - Temporary or minor injury may occur
Flammability	:	3 Serious Hazard
Physical	:	0 Minimal Hazard
Personal Protection	:	B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

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