

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : Aromatics Blend
 Product code : AL0-131014

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Phenova
 6390 Joyce Dr. Suite 100
 Golden, CO 80403 - United States
 T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924
 ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Germ cell mutagenicity Category 1B	H340	May cause genetic defects
Carcinogenicity Category 1A	H350	May cause cancer

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H225 - Highly flammable liquid and vapour
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H340 - May cause genetic defects
 H350 - May cause cancer

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 - Keep container tightly closed.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P370+P378 - In case of fire: Use media other than water to extinguish.
 P403+P235 - Store in a well-ventilated place. Keep cool.

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P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc.
toluene (Component)	(CAS-No.) 108-88-3	30.4
ethylbenzene (Component)	(CAS-No.) 100-41-4	18
o-xylene (Component)	(CAS-No.) 95-47-6	18
p-xylene (Component)	(CAS-No.) 106-42-3	18
1,2,3-trimethylbenzene (Component)	(CAS-No.) 526-73-8	5.2
1,2,4-trimethylbenzene (Component)	(CAS-No.) 95-63-6	5.2
1,3,5-trimethylbenzene (Component)	(CAS-No.) 108-67-8	5.2
benzene (Component)	(CAS-No.) 71-43-2	0.14

Full text of hazard classes and H-statements : see section 16

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 : Allow affected person to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

- Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
- Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

- 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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

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

Methods for cleaning up : Take up in absorbent material. Collect spillage.

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

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.

Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.

Incompatible materials : Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aromatics Blend		
ACGIH	Local name	Toluene
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	Visual impair; female repro;
ACGIH	Regulatory reference	ACGIH 2018
OSHA	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
OSHA	Remark (OSHA)	(2) See Table Z-2.
OSHA	Regulatory reference (US-OSHA)	OSHA
benzene (71-43-2)		
ACGIH	Local name	Benzene
ACGIH	ACGIH TWA (ppm)	0.5 ppm
ACGIH	ACGIH STEL (ppm)	2.5 ppm
ACGIH	Remark (ACGIH)	Leukemia
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm
OSHA	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	50 ppm 10 mins.
OSHA	Regulatory reference (US-OSHA)	OSHA
NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
NIOSH	NIOSH REL (STEL) (ppm)	1 ppm

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ethylbenzene (100-41-4)		
ACGIH	Local name	Ethyl benzene
ACGIH	ACGIH TWA (ppm)	20 ppm (Ethyl benzene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	URT irr; kidney dam (nephropathy)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
toluene (108-88-3)		
ACGIH	Local name	Toluene
ACGIH	ACGIH TWA (ppm)	20 ppm (Toluene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Visual impair; female repro;
ACGIH	Regulatory reference	ACGIH 2018
OSHA	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
OSHA	Remark (OSHA)	(2) See Table Z-2.
OSHA	Regulatory reference (US-OSHA)	OSHA
1,2,3-trimethylbenzene (526-73-8)		
ACGIH	ACGIH TWA (ppm)	25 ppm
1,2,4-trimethylbenzene (95-63-6)		
ACGIH	ACGIH TWA (ppm)	25 ppm
1,3,5-trimethylbenzene (108-67-8)		
ACGIH	ACGIH TWA (ppm)	25 ppm (Trimethyl benzene (mixed isomers); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
o-xylene (95-47-6)		
ACGIH	Local name	Xylene (o, m & p isomers)
ACGIH	ACGIH TWA (ppm)	100 ppm (Xylene (all isomers); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Xylene (o- isomer); 100 ppm; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	150 ppm (Xylene (all isomers); USA; Short time value; TLV - Adopted Value; Xylene (o- isomer); 150 ppm; USA; Short time value; TLV - Adopted Value)
ACGIH	Regulatory reference	ACGIH 2018
p-xylene (106-42-3)		
ACGIH	Local name	Xylene (o, m & p isomers)
ACGIH	ACGIH TWA (ppm)	100 ppm (Xylene (all isomers); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Xylene (p- isomers); 100 ppm; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	150 ppm (Xylene (all isomers); USA; Short time value; TLV - Adopted Value; Xylene (p- isomers); 150 ppm; USA; Short time value; TLV - Adopted Value)
ACGIH	Regulatory reference	ACGIH 2018

8.2. Appropriate engineering controls

Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

Hand protection:

Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact

Respiratory protection:

Wear appropriate mask

Personal protective equipment symbol(s):



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
	: Colorless
	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

benzene (71-43-2)	
LD50 oral rat	> 2000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LC50 inhalation rat (mg/l)	43.767 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Female, Experimental value, Inhalation (vapours))
LC50 inhalation rat (ppm)	13700 ppm (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Female, Experimental value, Inhalation (vapours))
ATE US (vapors)	43.767 mg/l/4h
ATE US (dust, mist)	43.767 mg/l/4h
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)
ATE US (oral)	3500 mg/kg body weight
ATE US (dermal)	15415 mg/kg body weight
ATE US (gases)	4000 ppmV/4h
ATE US (vapors)	17.8 mg/l/4h
ATE US (dust, mist)	17.8 mg/l/4h
toluene (108-88-3)	
LD50 oral rat	> 2000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	12223 mg/kg (Rabbit; Literature study; Other; >5000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 20 mg/l/4h (Rat; Literature study)
ATE US (dermal)	12223 mg/kg body weight
1,2,4-trimethylbenzene (95-63-6)	
LD50 oral rat	6000 mg/kg body weight (EU Method B.1 tris: Acute oral toxic – Acute toxic class method, Rat, Male, Experimental value, Oral)
LD50 dermal rat	3440 mg/kg (24 h, Rat, Male / female, Read-across, Dermal)
LC50 inhalation rat (mg/l)	> 10.2 mg/l air (4 h, Rat, Male / female, Read-across, Inhalation (vapours), 14 day(s))
ATE US (oral)	6000 mg/kg body weight
ATE US (dermal)	3440 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

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1,3,5-trimethylbenzene (108-67-8)	
LD50 oral rat	6000 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Read-across)
LD50 dermal rat	> 2000 mg/kg bw/day (Rat; Read-across; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	24 mg/l/4h (Rat; Literature study)
ATE US (oral)	6000 mg/kg body weight
ATE US (vapors)	24 mg/l/4h
ATE US (dust, mist)	24 mg/l/4h

o-xylene (95-47-6)	
LD50 oral rat	3608 mg/kg (Rat)
ATE US (oral)	3608 mg/kg body weight

p-xylene (106-42-3)	
LD50 oral rat	4030 mg/kg (Rat)
LC50 inhalation rat (mg/l)	20 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	4740 ppm/4h (Rat)
ATE US (oral)	4030 mg/kg body weight
ATE US (gases)	4740 ppmV/4h
ATE US (vapors)	20 mg/l/4h
ATE US (dust, mist)	20 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: May cause genetic defects. Based on available data, the classification criteria are not met
Carcinogenicity	: May cause cancer.

benzene (71-43-2)	
National Toxicology Program (NTP) Status	Known Human Carcinogens

ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans

toluene (108-88-3)	
IARC group	3 - Not classifiable

o-xylene (95-47-6)	
IARC group	3 - Not classifiable

p-xylene (106-42-3)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
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STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 12: Ecological information

12.1. Toxicity

benzene (71-43-2)	
LC50 fish 1	5.3 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)

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benzene (71-43-2)	
EC50 Daphnia 1	10 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
ErC50 (algae)	100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
ethylbenzene (100-41-4)	
LC50 fish 1	4.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Salmo gairdneri, Semi-static system, Fresh water, Experimental value)
EC50 Daphnia 1	1.8 - 2.4 mg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
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)
1,2,4-trimethylbenzene (95-63-6)	
LC50 fish 1	7.72 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
1,3,5-trimethylbenzene (108-67-8)	
EC50 Daphnia 1	6 mg/l (LC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 2	25 mg/l (EC50; DIN 38412-9; 48 h; Scenedesmus subspicatus; Static system; Fresh water; Experimental value)
o-xylene (95-47-6)	
EC50 other aquatic organisms 1	4.7 mg/l (72 h; Selenastrum capricornutum; Growth)
LC50 fish 2	8.05 mg/l (LC50; 96 h)
EC50 Daphnia 2	3.2 mg/l (EC50; 48 h)
p-xylene (106-42-3)	
LC50 fish 1	2.6 mg/l (LC50; 96 h)
EC50 Daphnia 2	1.4 mg/l (EC50; 48 h)

12.2. Persistence and degradability

Aromatics Blend	
Persistence and degradability	Not established.
benzene (71-43-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.18 g O ₂ /g substance
Chemical oxygen demand (COD)	2.15 g O ₂ /g substance
ThOD	3.1 g O ₂ /g substance
BOD (% of ThOD)	0.7
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
1,2,3-trimethylbenzene (526-73-8)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.

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1,2,4-trimethylbenzene (95-63-6)	
Persistence and degradability	Biodegradable in the soil. Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.44 g O ₂ /g substance
1,3,5-trimethylbenzene (108-67-8)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorption to soil is possible. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.0957 g O ₂ /g substance
Chemical oxygen demand (COD)	0.319 g O ₂ /g substance
ThOD	3.19 g O ₂ /g substance
BOD (% of ThOD)	0.03
o-xylene (95-47-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	1.64 g O ₂ /g substance
Chemical oxygen demand (COD)	2.91 g O ₂ /g substance
ThOD	3.125 g O ₂ /g substance
p-xylene (106-42-3)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	1.4 g O ₂ /g substance
Chemical oxygen demand (COD)	2.56 g O ₂ /g substance
ThOD	3.125 g O ₂ /g substance

12.3. Bioaccumulative potential

Aromatics Blend	
Bioaccumulative potential	Not established.
benzene (71-43-2)	
BCF fish 1	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value)
Log Pow	2.13 (Experimental value, 25 °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).
1,2,3-trimethylbenzene (526-73-8)	
BCF fish 1	133 - 259 (Cyprinus carpio, Literature study)
Log Pow	3.66 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
1,2,4-trimethylbenzene (95-63-6)	
BCF fish 1	243 (Pimephales promelas, QSAR)
Log Pow	3.63 (Experimental value, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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1,3,5-trimethylbenzene (108-67-8)	
BCF fish 2	161 (BCF)
Log Pow	3.42 - 4.13 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

o-xylene (95-47-6)	
BCF fish 1	21.4 (BCF)
BCF fish 2	14.1 (BCF)
BCF other aquatic organisms 1	219 (BCF)
Log Pow	3.12 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

p-xylene (106-42-3)	
BCF fish 1	15 (BCF)
BCF fish 2	23 (BCF; 240 h)
Log Pow	3.15 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

benzene (71-43-2)	
Surface tension	0.029 N/m (20 °C)
Log Koc	2.13 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

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
Ecology - soil	Low potential for adsorption in soil. Toxic to soil organisms.

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

1,2,3-trimethylbenzene (526-73-8)	
Ecology - soil	Adsorbs into the soil.

1,2,4-trimethylbenzene (95-63-6)	
Surface tension	0.029 N/m
Log Koc	3.04 (log Koc, Calculated value)
Ecology - soil	Low potential for mobility in soil. May be harmful to plant growth, blooming and fruit formation.

1,3,5-trimethylbenzene (108-67-8)	
Surface tension	0.028 N/m
Log Koc	log Koc,2.87; Calculated value
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

o-xylene (95-47-6)	
Surface tension	0.003 N/m (25 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

p-xylene (106-42-3)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

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benzene (71-43-2)	

ethylbenzene (100-41-4)	

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toluene (108-88-3)	
1,2,3-trimethylbenzene (526-73-8)	
1,2,4-trimethylbenzene (95-63-6)	
1,3,5-trimethylbenzene (108-67-8)	
o-xylene (95-47-6)	
p-xylene (106-42-3)	

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1993 Flammable liquids, n.o.s. (toluene ; benzene), 3, II
UN-No.(DOT) : UN1993
Proper Shipping Name (DOT) : Flammable liquids, n.o.s.
toluene ; benzene
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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.
T7 - 4 178.274(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.
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, 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 Quantity Limitations Passenger aircraft/rail : 5 L
(49 CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 : 60 L
CFR 175.75)

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DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene ; benzene), 3, II
UN-No. (IMDG)	: 1993
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: 1 L

Air transport

Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s. (toluene ; benzene), 3, II
UN-No. (IATA)	: 1993
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
ethylbenzene (100-41-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
1,2,3-trimethylbenzene (526-73-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
1,2,4-trimethylbenzene (95-63-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
1,3,5-trimethylbenzene (108-67-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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o-xylene (95-47-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 1000 lb

p-xylene (106-42-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 100 lb

15.2. International regulations

CANADA

benzene (71-43-2)

Listed on the Canadian DSL (Domestic Substances List)

ethylbenzene (100-41-4)

Listed on the Canadian DSL (Domestic Substances List)

toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

1,2,3-trimethylbenzene (526-73-8)

Listed on the Canadian DSL (Domestic Substances List)

1,2,4-trimethylbenzene (95-63-6)

Listed on the Canadian DSL (Domestic Substances List)

1,3,5-trimethylbenzene (108-67-8)

Listed on the Canadian DSL (Domestic Substances List)

o-xylene (95-47-6)

Listed on the Canadian DSL (Domestic Substances List)

p-xylene (106-42-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

benzene (71-43-2)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on EPA Hazardous Air Pollutant (HAPS)

ethylbenzene (100-41-4)

Listed on IARC (International Agency for Research on Cancer)
Listed on EPA Hazardous Air Pollutant (HAPS)

toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

o-xylene (95-47-6)

Listed on EPA Hazardous Air Pollutant (HAPS)

p-xylene (106-42-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

15.3. US State regulations

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benzene (71-43-2)					
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)	Maximum allowable dose level (MADL)
Yes	Yes	No	Yes	6.4 µg/day	
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)	Maximum allowable dose level (MADL)
Yes	No	No	No	54 µg/day	
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)	Maximum allowable dose level (MADL)
No	Yes	No	No		7000 µg/day

SECTION 16: Other information

Revision date : 04/03/2020
Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information : None.

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H315	Causes skin irritation
H319	Causes serious eye irritation
H340	May cause genetic defects
H350	May cause cancer

Phenova US SDS REV

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