

SAFETY DATA SHEET

Flammable Liquid Mixture: 1,2,3-Trimethylbenzene / 1,2,4-Trimethylbenzene / 1,3,5-Trimethylbenzene / 1,4-Diethylbenzene / 2-Ethyltoluene / 4-Ethyltoluene / Cumene / Ethyl Benzene / M-Xylene / N-Octane / N-Propyl Benzene / O-Xylene / P-Xylene / Toluene

Section 1. Identification

- GHS product identifier** : Flammable Liquid Mixture: 1,2,3-Trimethylbenzene / 1,2,4-Trimethylbenzene / 1,3,5-Trimethylbenzene / 1,4-Diethylbenzene / 2-Ethyltoluene / 4-Ethyltoluene / Cumene / Ethyl Benzene / M-Xylene / N-Octane / N-Propyl Benzene / O-Xylene / P-Xylene / Toluene
- Other means of identification** : Not available.
- Product type** : Liquid.
- Product use** : Synthetic/Analytical chemistry.
- SDS #** : 022531
- Supplier's details** : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253
- 24-hour telephone** : 1-866-734-3438

Section 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 1
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2

GHS label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

May form explosive mixtures with air.
Extremely flammable liquid and vapor.
Harmful if inhaled.
Causes skin irritation.

Precautionary statements

General :

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention :

Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

Response :

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention.

Storage :

Store in a well-ventilated place. Keep cool.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Product code : 022531

Ingredient name	%	CAS number
p-xylene	99.3 - 99.999	106-42-3
m-xylene	0.0001 - 0.1	108-38-3
propylbenzene	0.0001 - 0.05	103-65-1
1,2,3- trimethylbenzene	0.0001 - 0.05	526-73-8
1,2,4-trimethylbenzene	0.0001 - 0.05	95-63-6
1,3,5-Trimethylbenzene	0.0001 - 0.05	108-67-8
2-ethyltoluene	0.0001 - 0.05	611-14-3
4-ethyltoluene	0.0001 - 0.05	622-96-8
Cumene	0.0001 - 0.05	98-82-8
ethylbenzene	0.0001 - 0.05	100-41-4
octane	0.0001 - 0.05	111-65-9
o-xylene	0.0001 - 0.05	95-47-6
toluene	0.0001 - 0.05	108-88-3
1,4-diethylbenzene	0.0001 - 0.05	105-05-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Section 4. First aid measures

Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes skin irritation.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:, pain or irritation, watering, redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:, irritation, redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Extremely flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
p-xylene	<p>NIOSH REL (United States, 10/2016). STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m³ 10 hours. TWA: 100 ppm 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p> <p>ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p>
m-xylene	<p>NIOSH REL (United States, 10/2016). STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m³ 10 hours. TWA: 100 ppm 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p> <p>ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p>
propylbenzene 1,2,3- trimethylbenzene	<p>None.</p> <p>ACGIH TLV (United States, 3/2017). TWA: 25 ppm 8 hours. TWA: 123 mg/m³ 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 25 ppm 8 hours. TWA: 125 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2016). TWA: 25 ppm 10 hours. TWA: 125 mg/m³ 10 hours.</p>
1,2,4-trimethylbenzene	<p>ACGIH TLV (United States, 3/2017). TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2016). TWA: 125 mg/m³ 10 hours. TWA: 25 ppm 10 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 125 mg/m³ 8 hours. TWA: 25 ppm 8 hours.</p>
1,3,5-Trimethylbenzene	<p>ACGIH TLV (United States, 3/2017).</p>

Section 8. Exposure controls/personal protection

2-ethyltoluene
4-ethyltoluene
Cumene

ethylbenzene

octane

o-xylene

TWA: 25 ppm 8 hours.
TWA: 123 mg/m³ 8 hours.
OSHA PEL 1989 (United States, 3/1989).
TWA: 25 ppm 8 hours.
TWA: 125 mg/m³ 8 hours.
NIOSH REL (United States, 10/2016).
TWA: 25 ppm 10 hours.
TWA: 125 mg/m³ 10 hours.

None.
None.
ACGIH TLV (United States, 3/2017).
TWA: 50 ppm 8 hours.
NIOSH REL (United States, 10/2016).
Absorbed through skin.
TWA: 245 mg/m³ 10 hours.
TWA: 50 ppm 10 hours.
OSHA PEL (United States, 6/2016).
Absorbed through skin.
TWA: 245 mg/m³ 8 hours.
TWA: 50 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
TWA: 245 mg/m³ 8 hours.
TWA: 50 ppm 8 hours.

ACGIH TLV (United States, 3/2017).
TWA: 20 ppm 8 hours.
NIOSH REL (United States, 10/2016).
STEL: 545 mg/m³ 15 minutes.
STEL: 125 ppm 15 minutes.
TWA: 435 mg/m³ 10 hours.
TWA: 100 ppm 10 hours.
OSHA PEL (United States, 6/2016).
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
STEL: 545 mg/m³ 15 minutes.
STEL: 125 ppm 15 minutes.
TWA: 435 mg/m³ 8 hours.
TWA: 100 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).
TWA: 300 ppm 8 hours.
TWA: 1450 mg/m³ 8 hours.
STEL: 375 ppm 15 minutes.
STEL: 1800 mg/m³ 15 minutes.
NIOSH REL (United States, 10/2016).
TWA: 75 ppm 10 hours.
TWA: 350 mg/m³ 10 hours.
CEIL: 385 ppm 15 minutes.
CEIL: 1800 mg/m³ 15 minutes.
ACGIH TLV (United States, 3/2017).
TWA: 300 ppm 8 hours.
OSHA PEL (United States, 6/2016).
TWA: 500 ppm 8 hours.
TWA: 2350 mg/m³ 8 hours.

NIOSH REL (United States, 10/2016).
STEL: 655 mg/m³ 15 minutes.
STEL: 150 ppm 15 minutes.
TWA: 435 mg/m³ 10 hours.
TWA: 100 ppm 10 hours.
OSHA PEL (United States, 6/2016).
TWA: 435 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

toluene	<p>TWA: 100 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours. ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p> <p>ACGIH TLV (United States, 3/2017). TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2016). STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 10 hours. TWA: 100 ppm 10 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 8 hours. TWA: 100 ppm 8 hours. OSHA PEL Z2 (United States, 2/2013). AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours.</p>
1,4-diethylbenzene	None.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : May start to solidify at the following temperature: 13.2°C (55.8°F) This is based on data for the following ingredient: p-xylene.
- Boiling point** : Lowest known value: 138.4°C (281.1°F) (p-xylene).
- Critical temperature** : Lowest known value: 343.05°C (649.5°F) (p-xylene).
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Highest known value: 3.7 (Air = 1) (p-xylene).
- Gas Density (lb/ft³)** : Only known value: 0.86 (p-xylene).
- Relative density** : Not available.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Section 10. Stability and reactivity

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
p-xylene	LC50 Inhalation Gas.	Rat	9100 ppm	1 hours
	LC50 Inhalation Gas.	Rat	4550 ppm	4 hours
	LD50 Oral	Rat	3910 mg/kg	-
m-xylene	LD50 Oral	Rat	4988 mg/kg	-
	LD50 Oral	Rat	6040 mg/kg	-
propylbenzene	LC50 Inhalation Vapor	Rat	91910 ppm	1 hours
	LD50 Oral	Rat	6040 mg/kg	-
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m ³	4 hours
	LD50 Oral	Rat	5 g/kg	-
1,3,5-Trimethylbenzene	LC50 Inhalation Vapor	Rat	24000 mg/m ³	4 hours
	LD50 Oral	Rat	5000 mg/kg	-
4-ethyltoluene	LD50 Oral	Rat	4850 mg/kg	-
	LD50 Oral	Rat	16000 ppm	1 hours
Cumene	LC50 Inhalation Gas.	Rat	39000 mg/m ³	4 hours
	LC50 Inhalation Vapor	Rat	1400 mg/kg	-
	LD50 Oral	Rat	1400 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
octane	LC50 Inhalation Gas.	Rat	25260 ppm	4 hours
	LC50 Inhalation Vapor	Rat	118 g/m ³	4 hours
o-xylene	LC50 Inhalation Gas.	Mouse	8736 ppm	1 hours
	LC50 Inhalation Gas.	Rat	13400 ppm	1 hours
	LD50 Oral	Rat	3567 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	28830 ppm	1 hours
	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
m-xylene	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 10 milligrams	-
1,3,5-Trimethylbenzene	Eyes - Mild irritant	Rabbit	-	24 hours 500 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Cumene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	86 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 10 milligrams	-
ethylbenzene	Skin - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	500	-

Section 11. Toxicological information

toluene	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 15	-
	Eyes - Mild irritant	Rabbit	-	milligrams 0.5 minutes 100	-
	Eyes - Mild irritant	Rabbit	-	milligrams 870	-
	Eyes - Severe irritant	Rabbit	-	Micrograms 24 hours 2	-
	Skin - Mild irritant	Pig	-	milligrams 24 hours 250	-
	Skin - Mild irritant	Rabbit	-	microliters 435	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 20	-
	Skin - Moderate irritant	Rabbit	-	milligrams 500	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
p-xylene	-	3	-
m-xylene	-	3	-
Cumene	-	2B	Reasonably anticipated to be a human carcinogen.
ethylbenzene	-	2B	-
o-xylene	-	3	-
toluene	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
propylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,2,3- trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,3,5-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
4-ethyltoluene	Category 3	Not applicable.	Narcotic effects
octane	Category 3	Not applicable.	Narcotic effects
toluene	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Cumene	Category 2	Inhalation	Not determined
ethylbenzene	Category 2	Not determined	Not determined
toluene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
propylbenzene	ASPIRATION HAZARD - Category 1
2-ethyltoluene	ASPIRATION HAZARD - Category 1
4-ethyltoluene	ASPIRATION HAZARD - Category 1
Cumene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : Harmful if inhaled.
Skin contact : Causes skin irritation.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: , pain or irritation, watering, redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following: , irritation, redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
p-xylene	Acute EC50 3200 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 4730 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2 µl/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
m-xylene	Acute EC50 4900 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 5770 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 3530 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
propylbenzene	Acute LC50 8400 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 1800 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
1,2,4-trimethylbenzene	Acute LC50 1550 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pecteniscrus - Adult	48 hours
1,3,5-Trimethylbenzene	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 13000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
Cumene	Acute LC50 12520 µg/l Fresh water	Fish - Carassius auratus	96 hours
	Chronic NOEC 400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 2600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
ethylbenzene	Acute EC50 7400 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 10600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
o-xylene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
toluene	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 4700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
toluene	Acute EC50 10700 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 1390 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7600 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
toluene	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days

Section 12. Ecological information

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
p-xylene	3.15	8.1 to 25.9	low
m-xylene	3.2	8.1 to 25.9	low
propylbenzene	3.69	-	low
1,2,3- trimethylbenzene	3.66	194.98	low
1,2,4-trimethylbenzene	3.63	243	low
1,3,5-Trimethylbenzene	3.42	161	low
2-ethyltoluene	3.53	-	low
4-ethyltoluene	3.63	-	low
Cumene	3.55	35.48	low
ethylbenzene	3.6	-	low
octane	5.18	198.7	low
o-xylene	3.12	8.1 to 25.9	low
toluene	2.73	90	low
1,4-diethylbenzene	4.58	362 to 598	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Xylene	106-42-3	Listed	U239

Section 14. Transport information

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1993	UN1993	UN1993	UN1993	UN1993
UN proper shipping name	FLAMMABLE LIQUIDS, N.O.S. (p-xylene, m-xylene)	FLAMMABLE LIQUIDS, N.O.S. (p-xylene, m-xylene)			
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	I	I	I	I	I
Environmental hazards	No.	No.	No.	No.	No.

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Additional information

DOT Classification : **Reportable quantity** 100 lbs / 45.401 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Ship Index Forbidden
Passenger Carrying Road or Rail Index Forbidden

Special precautions for user : **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR:** p-xylene
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 307: ethylbenzene; toluene
Clean Water Act (CWA) 311: p-xylene; m-xylene; ethylbenzene; o-xylene; toluene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

Section 15. Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	p-xylene	106-42-3	99.3 - 99.999
Supplier notification	p-xylene	106-42-3	99.3 - 99.999

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: P-XYLENE; P-DIMETHYBENZENE

New York : The following components are listed: p-Xylene

New Jersey : The following components are listed: p-XYLENE; BENZENE, 1,4-DIMETHYL-

Pennsylvania : The following components are listed: BENZENE, 1,4-DIMETHYL-

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including Cumene, Ethylbenzene, which are known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Cumene	-	-
Ethylbenzene	Yes.	-
Toluene	-	Yes.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : At least one component is not listed in DSL but all such components are listed in NDSL.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Section 15. Regulatory information

Japan	: Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	2
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 1 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2	Expert judgment Expert judgment Calculation method

History

Date of printing	: 7/3/2018
Date of issue/Date of revision	: 7/3/2018
Date of previous issue	: 7/3/2018

Section 16. Other information

Version : 1.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

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