

## Section 1. Identification

**Product name** : FORSA™ PAO104 PARAFFIN DISPERSANT  
™ a trademark of Baker Hughes Incorporated.

**Product code** : PAO104

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : Paraffin Dispersant.

**Print date** : 4/6/2017

**Validation date** : 4/6/2017

**Version** : 3.01

**Supplier's details** : Baker Petrolite LLC  
12645 W. Airport Blvd.  
Sugar Land, TX 77478  
For Product Information/SDSs Call: 800-231-3606  
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

**Emergency telephone number (with hours of operation)** : CHEMTREC: 800-424-9300 (U.S. 24 hour)  
Baker Petrolite: 800-231-3606  
(001)281-276-5400  
CANUTEC: 613-996-6666 (Canada 24 hours)  
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

## 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 2  
ACUTE TOXICITY (oral) - Category 4  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
CARCINOGENICITY - Category 2  
TOXIC TO REPRODUCTION (Unborn child) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (optic nerve) - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
AQUATIC HAZARD (ACUTE) - Category 3  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazards identification

<b>Hazard statements</b>	: Highly flammable liquid and vapor. Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. Suspected of damaging the unborn child. Suspected of causing cancer. Causes damage to organs. (optic nerve) May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.
<b>Precautionary statements</b>	
<b>Prevention</b>	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves. PVC gloves.. Wear eye or face protection. Wear protective clothing. 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 release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
<b>Response</b>	: Collect spillage. IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. 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. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
<b>Storage</b>	: Store locked up. Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: Avoid contact with skin and clothing. Wash thoroughly after handling.
<b>Hazards not otherwise classified</b>	: Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Toluene	20 - 30	108-88-3
Aliphatic petroleum distillate	20 - 30	64742-89-8
Light aromatic naphtha	10 - 20	64742-95-6
1,2,4-Trimethylbenzene	10 - 20	95-63-6
1,3,5-Trimethylbenzene	1 - 5	108-67-8
Oxyalkylated alkyl phenol	1 - 5	Trade secret.
Methanol	1 - 5	67-56-1
Alkylaryl sulfonates	1 - 5	Trade secret.
Xylene	1 - 5	1330-20-7
1,2,3-Trimethylbenzene	1 - 5	526-73-8
Diethylene glycol monobutyl ether	1 - 5	112-34-5
2-Ethylhexanol	1 - 5	104-76-7
Cumene	0.1 - 1	98-82-8
Octane	0.1 - 1	111-65-9
Heptane	0.1 - 1	142-82-5

## Section 3. Composition/information on ingredients

Ethylbenzene	0.1 - 1	100-41-4
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## 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. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : pain or irritation, watering, redness
- Inhalation** : nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness, reduced fetal weight, increase in fetal deaths, skeletal malformations
- Skin contact** : irritation, redness, dryness, cracking, reduced fetal weight, increase in fetal deaths, skeletal malformations
- Ingestion** : reduced fetal weight, increase in fetal deaths, skeletal malformations

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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)

#### Additional information

If product is ingested and vomiting occurs naturally, have person lean forward to reduce the risk of aspiration into the lungs.

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### Specific hazards arising from the chemical

- : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

### Hazardous thermal decomposition products

- : carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides

### 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 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. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) 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.

## Section 6. Accidental release measures

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### 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. Store locked up. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Toluene	<p><b>ACGIH TLV (United States, 3/2015).</b>                      TWA: 20 ppm, 0 times per shift, 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>                      STEL: 560 mg/m<sup>3</sup>, 0 times per shift, 15 minutes.                      STEL: 150 ppm, 0 times per shift, 15 minutes.                      TWA: 375 mg/m<sup>3</sup>, 0 times per shift, 8 hours.                      TWA: 100 ppm, 0 times per shift, 8 hours.  <b>OSHA PEL Z2 (United States, 2/2013).</b>                      AMP: 500 ppm, 0 times per shift, 10 minutes.                      CEIL: 300 ppm, 0 times per shift, 0 hours.                      TWA: 200 ppm, 0 times per shift, 8 hours.</p>
Aliphatic petroleum distillate	<p><b>ACGIH TLV (United States).</b>                      TWA: 300 ppm 8 hours.  <b>OSHA PEL 1989 (United States).</b>                      TWA: 300 ppm 8 hours.                      STEL: 400 ppm 15 minutes.</p>

## Section 8. Exposure controls/personal protection

Light aromatic naphtha	None.
1,2,4-Trimethylbenzene	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 123 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 125 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p>
1,3,5-Trimethylbenzene	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 123 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 125 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p>
Oxyalkylated alkyl phenol	None.
Methanol	<p><b>ACGIH TLV (United States, 3/2015). Absorbed through skin.</b> STEL: 328 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 250 ppm, 0 times per shift, 15 minutes. TWA: 262 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 260 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b> STEL: 325 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 250 ppm, 0 times per shift, 15 minutes. TWA: 260 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours.</p>
Alkylaryl sulfonates	None.
Xylene	<p><b>ACGIH TLV (United States, 3/2015).</b> STEL: 651 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 150 ppm, 0 times per shift, 15 minutes. TWA: 434 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 435 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 655 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 150 ppm, 0 times per shift, 15 minutes. TWA: 435 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p>
1,2,3-Trimethylbenzene	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 123 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 125 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 25 ppm, 0 times per shift, 8 hours.</p>
Diethylene glycol monobutyl ether	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor</p>

## Section 8. Exposure controls/personal protection

2-Ethylhexanol	<p><b>ACGIH TLV (United States).</b> TWA: 10 ppm, (Inhalable fraction.)</p>
Cumene	<p>None.</p> <p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 50 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013). Absorbed through skin.</b> TWA: 245 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 50 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b> TWA: 245 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 50 ppm, 0 times per shift, 8 hours.</p>
Octane	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 300 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 2350 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 500 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 1800 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 375 ppm, 0 times per shift, 15 minutes. TWA: 1450 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 300 ppm, 0 times per shift, 8 hours.</p>
Heptane	<p><b>ACGIH TLV (United States, 3/2015).</b> STEL: 2050 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 500 ppm, 0 times per shift, 15 minutes. TWA: 1640 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 400 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 2000 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 500 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 2000 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 500 ppm, 0 times per shift, 15 minutes. TWA: 1600 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 400 ppm, 0 times per shift, 8 hours.</p>
Ethylbenzene	<p><b>ACGIH TLV (United States, 3/2015).</b> TWA: 20 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 435 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 545 mg/m<sup>3</sup>, 0 times per shift, 15 minutes. STEL: 125 ppm, 0 times per shift, 15 minutes. TWA: 435 mg/m<sup>3</sup>, 0 times per shift, 8 hours. TWA: 100 ppm, 0 times per shift, 8 hours.</p>

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

## Section 8. Exposure controls/personal protection

**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.

### 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.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves. PVC gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Amber.
- Odor** : Aromatic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting/freezing point** : Not available.
- Boiling point** : Not available.
- Initial Boiling Point** : Not available.
- Flash point** : Closed cup: 6°C (42.8°F) [SFCC]
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosive (flammable) limits** : Lower: 6%  
Upper: 36.5%
- Vapor pressure** : 6.6 psig @ 54.4°C, 130 F (Reid)
- Vapor density** : >1 [Air = 1]
- Relative density** : 0.849 (15.6°C)
- Density** : 7.07 (lbs/gal)
- Solubility in water** : Dispersible
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- VOC** : Not available.
- Pour Point** : -40°C (-40°F)



## 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. Do not allow vapor to accumulate in low or confined areas.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials, reducing materials and acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Female rat	5100 ppm	4 hours
	LC50 Inhalation Vapor	Rat	49000 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Light aromatic naphtha 1,2,4-Trimethylbenzene	LD50 Oral	Rat	2900 mg/kg	-
	LC50 Inhalation Vapor	Rat	18000 mg/m <sup>3</sup>	4 hours
1,3,5-Trimethylbenzene	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
Methanol	LD50 Oral	Rat	5000 mg/kg	-
	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
Xylene	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
Diethylene glycol monobutyl ether	LD50 Oral	Male rat	3523 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Dermal	Rabbit	2700 mg/kg	-
2-Ethylhexanol	LD50 Oral	Rat	4500 mg/kg	-
	LC50 Inhalation Vapor	Rat	0.89 mg/l	4 hours
	LD50 Dermal	Rabbit	1970 mg/kg	-
Cumene	LD50 Oral	Rat	2049 mg/kg	-
	LC50 Inhalation Vapor	Mouse	10000 mg/m <sup>3</sup>	7 hours
	LC50 Inhalation Vapor	Rat	39000 mg/m <sup>3</sup>	4 hours
Octane	LD50 Dermal	Rabbit	10600 mg/kg	-
	LD50 Oral	Rat	2.9 g/kg	-
Heptane	LC50 Inhalation Gas.	Rat	25260 ppm	4 hours
	LC50 Inhalation Vapor	Rat	118 g/m <sup>3</sup>	4 hours
Ethylbenzene	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	103 g/m <sup>3</sup>	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	15400 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

## Section 11. Toxicological information

### Irritation/Corrosion

No applicable toxicity data

### Sensitization

No applicable toxicity data

### Mutagenicity

No applicable toxicity data

### Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Cumene	-	2B	Reasonably anticipated to be a human carcinogen.
Ethylbenzene	-	2B	-

### Reproductive toxicity

No applicable toxicity data

### Teratogenicity

No applicable toxicity data

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 3	Not applicable.	Narcotic effects
Aliphatic petroleum distillate	Category 3	Not applicable.	Narcotic effects
Light aromatic naphtha	Category 3	Not applicable.	Narcotic effects
1,2,4-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
1,3,5-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
Methanol	Category 1	Oral	optic nerve
Xylene	Category 3	Not applicable.	Narcotic effects
1,2,3-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
2-Ethylhexanol	Category 3	Not applicable.	Respiratory tract irritation
Cumene	Category 3	Not applicable.	Respiratory tract irritation
Octane	Category 3	Not applicable.	Narcotic effects
Heptane	Category 3	Not applicable.	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ethylbenzene	Category 2	Not determined	hearing organs

### Aspiration hazard

## Section 11. Toxicological information

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Aliphatic petroleum distillate	ASPIRATION HAZARD - Category 1
Light aromatic naphtha	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
1,2,3-Trimethylbenzene	ASPIRATION HAZARD - Category 1
Cumene	ASPIRATION HAZARD - Category 1
Octane	ASPIRATION HAZARD - Category 1
Heptane	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal, Inhalation.

### 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.

#### Potential chronic health effects

**General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : Suspected of damaging the unborn child.

**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

Route	ATE value
Oral	1757.9 mg/kg
Dermal	7222.3 mg/kg
Inhalation (gases)	249552.9 ppm
Inhalation (vapors)	51.36 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 433 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch	96 hours
	Chronic NOEC 500000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours

## Section 12. Ecological information

Aliphatic petroleum distillate 1,2,4-Trimethylbenzene	Chronic NOEC 1000 µg/l Fresh water Acute LC50 100000 ppm Fresh water Acute LC50 4910 µg/l Marine water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Crustaceans - Elasmopus pecteniscrus	21 days 96 hours 48 hours
1,3,5-Trimethylbenzene	Acute LC50 22.4 mg/l Fresh water Acute LC50 12520 to 15050 µg/l Fresh water	Fish - Tilapia zillii Fish - Carassius auratus	96 hours 96 hours
Methanol	Chronic NOEC 400 µg/l Fresh water Acute EC50 16.912 mg/l Marine water Acute EC50 10000000 µg/l Fresh water Acute LC50 2500000 µg/l Marine water	Daphnia - Daphnia magna Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Crangon crangon	21 days 96 hours 48 hours 48 hours
Xylene	Acute LC50 100 mg/l Fresh water Chronic NOEC 9.96 mg/l Marine water Acute LC50 8500 µg/l Marine water	Fish - Pimephales promelas Algae - Ulva pertusa Crustaceans - Palaemonetes pugio	96 hours 96 hours 48 hours
Diethylene glycol monobutyl ether	Acute LC50 13400 µg/l Fresh water Acute LC50 1300000 µg/l Fresh water	Fish - Pimephales promelas Fish - Lepomis macrochirus	96 hours 96 hours
2-Ethylhexanol	Acute LC50 75 mg/dm3 Fresh water Acute EC50 2600 µg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata	96 hours 72 hours
Cumene	Acute LC50 7400 to 11290 µg/l Fresh water	Crustaceans - Artemia sp.	48 hours
Heptane	Acute LC50 30500 µg/l Fresh water Acute LC50 2700 µg/l Fresh water Acute LC50 375000 µg/l Fresh water Acute EC50 4600 µg/l Fresh water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Fish - Oreochromis mossambicus Algae - Pseudokirchneriella subcapitata	48 hours 96 hours 96 hours 72 hours
Ethylbenzene	Acute EC50 2930 to 4400 µg/l Fresh water Acute LC50 5200 µg/l Marine water	Daphnia - Daphnia magna Crustaceans - Americamysis bahia	48 hours 48 hours
	Acute LC50 4200 µg/l Fresh water Chronic NOEC 1000 µg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata	96 hours 96 hours

### Persistence and degradability








Not available.

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

## Section 13. Disposal considerations

**Disposal methods** : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1993	UN1993	UN1993	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Contains: Toluene, Methanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Toluene, Methanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Toluene, Methanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Toluene, Methanol)
Transport hazard class(es)	3  	3  	3  	3 
Packing group	II	II	II	II
Environmental hazards	Yes.	Yes.	Yes.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3),	<b>Emergency schedules (EmS)</b> F-E S-E	-

**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.

**DOT Reportable Quantity** Toluene, 602 gal of this product.  
Methanol, 20823 gal of this product.  
Xylene, 706 gal of this product.

**Marine pollutant** Light aromatic naphtha  
1,2,4-Trimethylbenzene

**North-America NAERG** : 128

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 12(b) one-time export:** No products were found.  
**TSCA 12(b) annual export notification:** No products were found.  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** Ethylbenzene; Toluene; Benzene; Naphthalene  
**Clean Water Act (CWA) 311:** Ethylbenzene; Xylene; Toluene; Benzene; Naphthalene  
**United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :**

## Section 15. Regulatory information

List name	Status	Ingredient name	Name on list	Conc.
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Ethylbenzene	Ethyl benzene	0.1 - 1
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Xylene	Xylenes	1 - 5
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Toluene	Toluene	20 - 30
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Benzene	Benzene	0 - 0.1
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Cumene	Cumene	0.1 - 1
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Naphthalene	Naphthalene	0 - 0.1
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	1 - 5
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Diethylene glycol monobutyl ether	Glycol ethers	1 - 5

[SARA 302/304](#) : No products were found.

[SARA 311/312](#)

**Classification**

: Fire hazard  
 Immediate (acute) health hazard  
 Delayed (chronic) health hazard

[SARA 313](#)

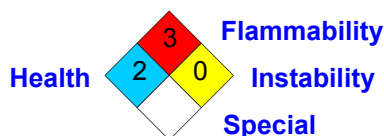
	Product name	CAS number	%
<b>Supplier notification</b>	Toluene	108-88-3	20 - 30
	1,2,4-Trimethylbenzene	95-63-6	10 - 20
	Methanol	67-56-1	1 - 5
	Xylene	1330-20-7	1 - 5
	Diethylene glycol monobutyl ether	112-34-5	1 - 5
	Ethylbenzene	100-41-4	0.1 - 1

[Canada](#)

**Canada (CEPA DSL):** : All components are listed or exempted.

## Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



[History](#)

**Date of printing** : 4/6/2017

[Notice to reader](#)

## **Section 16. Other information**

**NOTE:** The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

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