

# SAFETY DATA SHEET

CITGO No. 2 Diesel Fuel, Low Sulfur, with Biodiesel



## Section 1. Identification

|                                   |                                                                                                                                                                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GHS product identifier</b>     | : CITGO No. 2 Diesel Fuel, Low Sulfur, with Biodiesel                                                                                                                                                                                   |
| <b>Chemical name</b>              | : Fuels, diesel, No 2                                                                                                                                                                                                                   |
| <b>Synonyms</b>                   | : No. 2-D Grade Diesel Fuel Oil (defined by ASTM D-975); Treated or Refined Diesel Fuel No. 2; Grade 2 Distillate Fuel; Hydrodesulfurized Middle Distillate; C9-C16 Petroleum Hydrocarbons; Ultra Low Sulfur Diesel Fuel with Biodiesel |
| <b>Code</b>                       | : Various                                                                                                                                                                                                                               |
| <b>MSDS #</b>                     | : LSBD                                                                                                                                                                                                                                  |
| <b>Supplier's details</b>         | : CITGO Petroleum Corporation<br>P.O. Box 4689<br>Houston, TX 77210<br>sdsvend@citgo.com                                                                                                                                                |
| <b>Emergency telephone number</b> | : Technical Contact: (832) 486-4000<br>Medical Emergency: (832) 486-4700<br>CHEMTREC Emergency: (800) 424-9300<br>(United States Only)                                                                                                  |

## Section 2. Hazards identification

|                                                   |                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OSHA/HCS status</b>                            | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).                                                                                                                                                                                                                                         |
| <b>Classification of the substance or mixture</b> | : FLAMMABLE LIQUIDS - Category 3<br>ACUTE TOXICITY: INHALATION - Category 4<br>SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B<br>CARCINOGENICITY - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [central nervous system (CNS)] - Category 2<br>ASPIRATION HAZARD - Category 1 |

### GHS label elements

#### **Hazard pictograms**



#### **Signal word**

#### **Hazard statements**

- : Danger
- : Flammable liquid and vapor.  
Harmful if inhaled.  
Causes skin and eye irritation.  
Suspected of causing cancer.  
May be fatal if swallowed and enters airways.  
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

### Precautionary statements

#### **Prevention**

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - 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. Do not breathe vapor. Wash hands thoroughly after handling.

## Section 2. Hazards identification

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Response</b>                         | : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. 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. 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>Hazards not otherwise classified</b> | : None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Section 3. Composition/information on ingredients

|                                      |                                                                                                                                                                                                                                         |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Substance/mixture</b>             | : Substance                                                                                                                                                                                                                             |
| <b>Chemical name</b>                 | : Fuels, diesel, No 2                                                                                                                                                                                                                   |
| <b>Other means of identification</b> | : No. 2-D Grade Diesel Fuel Oil (defined by ASTM D-975); Treated or Refined Diesel Fuel No. 2; Grade 2 Distillate Fuel; Hydrodesulfurized Middle Distillate; C9-C16 Petroleum Hydrocarbons; Ultra Low Sulfur Diesel Fuel with Biodiesel |

### CAS number/other identifiers

|                   |              |
|-------------------|--------------|
| <b>CAS number</b> | : 68476-34-6 |
|-------------------|--------------|

| <b>Ingredient name</b>        | <b>%</b> | <b>CAS number</b> |
|-------------------------------|----------|-------------------|
| Fuels, diesel, No 2           | 100      | 68476-34-6        |
| Fatty acid esters             | 1 - 20   | Mixture           |
| Trimethylbenzene, all isomers | 1 - 5    | 25551-13-7        |
| Naphthalene                   | 0.1 - 1  | 91-20-3           |
| Biphenyl                      | 0.1 - 1  | 92-52-4           |
| Cumene                        | 0.1 - 1  | 98-82-8           |
| Xylenes, mixed isomers        | 0.1 - 1  | 1330-20-7         |
| Ethylbenzene                  | 0.1 - 1  | 100-41-4          |

\* = Various      \*\* = Mixture      \*\*\* = Proprietary

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>  | : 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Inhalation</b>   | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that gas or vapor is 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 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. |
| <b>Skin contact</b> | : Wash contaminated skin with soap and 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Section 4. First aid measures

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute

#### Potential acute health effects

**Eye contact** : Causes eye irritation.  
**Inhalation** : Harmful if inhaled.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

#### 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** : Adverse symptoms may include the following:  
 nausea or vomiting

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

**Notes to physician** : If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.  
**Specific treatments** : Treat symptomatically and supportively.  
**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that gas or vapor is 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

**Specific hazards arising from the chemical** : 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.

### Extinguishing media

**Suitable extinguishing media** : SMALL FIRE: Steam, CO<sub>2</sub>, dry chemical or inert gas (e.g., nitrogen). Use caution when applying carbon dioxide in confined spaces.  
 LARGE FIRE: Use foam, water fog or water spray. Water fog and spray are effective in cooling containers and adjacent structures. However, water can cause frothing and/or may not extinguish the fire. Water can be used to cool the external walls of vessels to prevent excessive pressure, ignition or explosion.

## Section 5. Fire-fighting measures

- Unsuitable extinguishing media** : Do not use water jet.
- 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. Absorb with an inert 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 exposure - obtain special instructions before use. 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 swallow. 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. Non equilibrium conditions may increase the fire hazard associated with this product. Always bond receiving containers to the fill pipe before and during loading. Always

## Section 7. Handling and storage

confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards. Carefully review operations that may increase the risks such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. In addition to bonding and grounding, efforts to mitigate the hazards may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities.

Always keep nozzle in contact with the container throughout the loading process. Do NOT fill any portable container in or on a vehicle.

Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e., loading this material in tanks or shipping compartments that previously contained a dissimilar product).

### 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.

**Bulk Storage Conditions:** Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name               | Exposure limits                                                                                                                                                                                                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Trimethylbenzene, all isomers | <b>ACGIH TLV (United States, 4/2014).</b><br>TWA: 25 ppm 8 hours.<br>TWA: 123 mg/m <sup>3</sup> 8 hours.                                                                                                                                                                            |
| Naphthalene                   | <b>ACGIH (United States). Absorbed through skin.</b><br>TWA: 10 ppm 8 hours.<br>STEL: 15 ppm 15 minutes.<br><b>OSHA (United States).</b><br>TWA: 10 ppm 8 hours.                                                                                                                    |
| Biphenyl                      | <b>ACGIH TLV (United States, 4/2014). Absorbed through skin.</b><br>TWA: 10 ppm 8 hours.<br>TWA: 52 mg/m <sup>3</sup> 8 hours.<br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 10 ppm 8 hours.<br>TWA: 50 mg/m <sup>3</sup> 8 hours.                                            |
| Cumene                        | <b>OSHA PEL Z2 (United States).</b><br>TWA: 0.2 ppm 8 hours.<br><b>ACGIH TLV (United States, 4/2014).</b><br>TWA: 0.2 ppm 8 hours.<br>TWA: 1.3 mg/m <sup>3</sup> 8 hours.<br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 0.2 ppm 8 hours.<br>TWA: 1 mg/m <sup>3</sup> 8 hours. |
| Cumene                        | <b>ACGIH TLV (United States, 4/2014).</b><br>TWA: 50 ppm 8 hours.                                                                                                                                                                                                                   |

## Section 8. Exposure controls/personal protection

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Xylenes, mixed isomers | <p><b>OSHA PEL (United States, 2/2013). Absorbed through skin.</b><br/> TWA: 50 ppm 8 hours.<br/> TWA: 245 mg/m<sup>3</sup> 8 hours.</p> <p><b>ACGIH TLV (United States, 4/2014).</b><br/> TWA: 100 ppm 8 hours.<br/> TWA: 434 mg/m<sup>3</sup> 8 hours.<br/> STEL: 150 ppm 15 minutes.<br/> STEL: 651 mg/m<sup>3</sup> 15 minutes.</p> <p><b>OSHA PEL (United States, 2/2013).</b><br/> TWA: 100 ppm 8 hours.<br/> TWA: 435 mg/m<sup>3</sup> 8 hours.</p> |
| Ethylbenzene           | <p><b>ACGIH TLV (United States, 4/2014).</b><br/> TWA: 20 ppm 8 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b><br/> TWA: 100 ppm 8 hours.<br/> TWA: 435 mg/m<sup>3</sup> 8 hours.</p>                                                                                                                                                                                                                                                              |

- 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, vapor controls, 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 glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. 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 inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Avoid skin contact with liquid. Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: Heavy duty, industrial grade chemically resistant gloves constructed of nitrile, neoprene, polyethylene, fluoroelastomer rubber or polyvinyl chloride as approved by glove manufacturer. 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. Leather gloves are not protective for liquid contact.
- Body protection** : Avoid skin contact with liquid. 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.
- Other skin protection** : Avoid skin contact with liquid. 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. Leather boots are not protective for liquid contact.



## Section 8. Exposure controls/personal protection

- Respiratory protection** : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, air-purifying or supplied-air respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. If an air purifying respirator is appropriate, use one equipped with cartridges rated for organic vapors.

## Section 9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Transparent, clear to yellow or red.
- Odor** : Characteristic.
- pH** : Not available.
- Boiling point/boiling range** : 282 to 338°C (539.6 to 640.4°F)
- Flash point** : Closed cup: 54°C (129.2°F) [Pensky-Martens.]
- Evaporation rate** : <1 (butyl acetate = 1)
- Lower and upper explosive (flammable) limits** : Lower: 0.6%  
Upper: 6.5%
- Vapor pressure** : 0.27 kPa (2 mm Hg) [room temperature]
- Vapor density** : 5 [Air = 1]
- Relative density** : 0.84
- Density lbs/gal** : Estimated 7 lbs/gal
- Gravity, °API** : Estimated 37 @ 60 F
- Solubility** : Very slightly soluble in the following materials: cold water.
- Partition coefficient: n-octanol/water** : >3.3
- Viscosity** : Kinematic (room temperature): 0.02 cm<sup>2</sup>/s (2 cSt)

## Section 10. Stability and reactivity

- Reactivity** : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).
- 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. Do not store with strong oxidizing agents.
- 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.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name       | Result                | Species | Dose                | Exposure |
|-------------------------------|-----------------------|---------|---------------------|----------|
| Trimethylbenzene, all isomers | LD50 Oral             | Rat     | 8970 mg/kg          | -        |
| Naphthalene                   | LD50 Oral             | Rat     | 490 mg/kg           | -        |
| Biphenyl                      | LD50 Dermal           | Rabbit  | >5010 mg/kg         | -        |
| Cumene                        | LD50 Oral             | Rat     | 2140 mg/kg          | -        |
|                               | LC50 Inhalation Vapor | Mouse   | 10 g/m <sup>3</sup> | 7 hours  |
|                               | LD50 Dermal           | Rabbit  | 12300 uL/kg         | -        |
|                               | LD50 Oral             | Rat     | 2.9 g/kg            | -        |
|                               | LD50 Oral             | Rat     | 4000 mg/kg          | -        |
| Xylenes, mixed isomers        | LC50 Inhalation Vapor | Rat     | 5000 ppm            | 4 hours  |
|                               | LC50 Inhalation Vapor | Rat     | 6700 ppm            | 4 hours  |
|                               | LD50 Oral             | Mouse   | 2119 mg/kg          | -        |
|                               | LD50 Oral             | Rat     | 4300 mg/kg          | -        |
|                               | LD50 Oral             | Rat     | 4300 mg/kg          | -        |
| Ethylbenzene                  | LD50 Dermal           | Rabbit  | >5000 mg/kg         | -        |
|                               | LD50 Oral             | Rat     | 3500 mg/kg          | -        |

**Conclusion/Summary** : No additional information.

#### Irritation/Corrosion

| Product/ingredient name       | Result                   | Species | Score | Exposure                 | Observation |
|-------------------------------|--------------------------|---------|-------|--------------------------|-------------|
| Trimethylbenzene, all isomers | Eyes - Mild irritant     | Rabbit  | -     | 24 hours 500 milligrams  | -           |
|                               | Skin - Moderate irritant | Rabbit  | -     | 24 hours 500 milligrams  | -           |
| Naphthalene                   | Skin - Mild irritant     | Rabbit  | -     | 495 milligrams           | -           |
| Biphenyl                      | Eyes - Mild irritant     | Rabbit  | -     | 100 milligrams           | -           |
|                               | Skin - Severe irritant   | Rabbit  | -     | 24 hours 500 microliters | -           |
| Cumene                        | Eyes - Mild irritant     | Rabbit  | -     | 86 milligrams            | -           |
|                               | Skin - Mild irritant     | Rabbit  | -     | 24 hours 10 milligrams   | -           |
| Xylenes, mixed isomers        | Skin - Mild irritant     | Rat     | -     | 8 hours 60 microliters   | -           |
|                               | Skin - Moderate irritant | Rabbit  | -     | 24 hours 500 milligrams  | -           |
|                               | Skin - Moderate irritant | Rabbit  | -     | 100 Percent              | -           |
| Ethylbenzene                  | Skin - Mild irritant     | Rabbit  | -     | 24 hours 15 milligrams   | -           |

**Skin** : No additional information.

**Eyes** : No additional information.

**Respiratory** : No additional information.

#### Sensitization

**Skin** : No additional information.

**Respiratory** : No additional information.

#### Mutagenicity

**Conclusion/Summary** : No additional information.

#### Carcinogenicity

**Conclusion/Summary** : No additional information.

#### Classification



## Section 11. Toxicological information

| Product/ingredient name | OSHA | IARC | NTP                                              |
|-------------------------|------|------|--------------------------------------------------|
| Fuels, diesel, No 2     | -    | 3    | -                                                |
| Naphthalene             | -    | 2B   | Reasonably anticipated to be a human carcinogen. |
| Cumene                  | -    | 2B   | Reasonably anticipated to be a human carcinogen. |
| Xylenes, mixed isomers  | -    | 3    | -                                                |
| Ethylbenzene            | -    | 2B   | -                                                |

### Reproductive toxicity

**Conclusion/Summary** : No additional information.

### Teratogenicity

**Conclusion/Summary** : No additional information.

### Specific target organ toxicity (single exposure)

| Name                          | Category   | Route of exposure | Target organs                                     |
|-------------------------------|------------|-------------------|---------------------------------------------------|
| Trimethylbenzene, all isomers | Category 3 | Not applicable.   | Respiratory tract irritation and Narcotic effects |
| Biphenyl                      | Category 3 | Not applicable.   | Respiratory tract irritation                      |
| Cumene                        | Category 3 | Not applicable.   | Respiratory tract irritation                      |
| Ethylbenzene                  | Category 3 | Not applicable.   | Respiratory tract irritation                      |

### Specific target organ toxicity (repeated exposure)

| Name                          | Category   | Route of exposure | Target organs                |
|-------------------------------|------------|-------------------|------------------------------|
| Trimethylbenzene, all isomers | Category 2 | Not determined    | central nervous system (CNS) |
| Ethylbenzene                  | Category 2 | Inhalation        | ears                         |

### Aspiration hazard

| Name                          | Result                         |
|-------------------------------|--------------------------------|
| Trimethylbenzene, all isomers | ASPIRATION HAZARD - Category 1 |
| Cumene                        | ASPIRATION HAZARD - Category 1 |
| Ethylbenzene                  | ASPIRATION HAZARD - Category 1 |
| propylbenzene                 | ASPIRATION HAZARD - Category 1 |

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

### Potential acute health effects

**Eye contact** : Causes eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Causes skin irritation.

**Ingestion** : May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

### 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

## Section 11. Toxicological information

**Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

### Potential chronic health effects

**General** : May cause damage to organs through prolonged or repeated exposure.

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

**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.

## Section 12. Ecological information

### Toxicity

| Product/ingredient name       | Result                              | Species                                                                | Exposure |
|-------------------------------|-------------------------------------|------------------------------------------------------------------------|----------|
| Trimethylbenzene, all isomers | Acute LC50 5600 µg/l Marine water   | Crustaceans - Palaemonetes pugio                                       | 48 hours |
| Naphthalene                   | Acute EC50 1.6 ppm Fresh water      | Daphnia - Daphnia magna                                                | 48 hours |
|                               | Acute LC50 2350 µg/l Marine water   | Crustaceans - Palaemonetes pugio                                       | 48 hours |
|                               | Acute LC50 213 µg/l Fresh water     | Fish - Melanotaenia fluviatilis - Larvae                               | 96 hours |
| Biphenyl                      | Chronic NOEC 0.67 ppm Fresh water   | Fish - Oncorhynchus kisutch                                            | 40 days  |
|                               | Acute LC50 360 µg/l Fresh water     | Daphnia - Daphnia magna - Neonate                                      | 48 hours |
|                               | Acute LC50 1450 µg/l Fresh water    | Fish - Pimephales promelas                                             | 96 hours |
|                               | Chronic NOEC 0.17 mg/l Fresh water  | Daphnia - Daphnia magna - Neonate                                      | 21 days  |
| Cumene                        | Chronic NOEC 0.229 mg/l Fresh water | Fish - Oncorhynchus mykiss                                             | 87 days  |
|                               | Acute EC50 2600 µg/l Fresh water    | Algae - Pseudokirchneriella subcapitata                                | 72 hours |
|                               | 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 |
| Xylenes, mixed isomers        | Acute LC50 2700 µg/l Fresh water    | Fish - Oncorhynchus mykiss                                             | 96 hours |
|                               | Acute EC50 90 mg/l Fresh water      | Crustaceans - Cypris subglobosa                                        | 48 hours |
|                               | Acute LC50 8.5 ppm Marine water     | Crustaceans - Palaemonetes pugio - Adult                               | 48 hours |
|                               | Acute LC50 8500 µg/l Marine water   | Crustaceans - Palaemonetes pugio                                       | 48 hours |
| Ethylbenzene                  | Acute LC50 15700 µg/l Fresh water   | Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
|                               | Acute LC50 19000 µg/l Fresh water   | Fish - Lepomis macrochirus                                             | 96 hours |
|                               | Acute LC50 13400 µg/l Fresh water   | Fish - Pimephales promelas                                             | 96 hours |
|                               | Acute LC50 16940 µg/l Fresh water   | Fish - Carassius auratus                                               | 96 hours |
|                               | 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 2930 µg/l Fresh water    | Daphnia - Daphnia magna - Neonate                                      | 48 hours |
|                               | Acute LC50 5200 µg/l Marine water   | Crustaceans - Americamysis bahia                                       | 48 hours |
|                               | Acute LC50 4200 µg/l Fresh water    | Fish - Oncorhynchus mykiss                                             | 96 hours |
|                               |                                     |                                                                        |          |

## Section 12. Ecological information

|  |                                    |                                         |          |
|--|------------------------------------|-----------------------------------------|----------|
|  | Chronic NOEC 1000 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
|--|------------------------------------|-----------------------------------------|----------|

**Conclusion/Summary** : Not available.

### Persistence and degradability

Not available.

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

| Product/ingredient name       | LogP <sub>ow</sub> | BCF         | Potential |
|-------------------------------|--------------------|-------------|-----------|
| Fuels, diesel, No 2           | >3.3               | -           | low       |
| Trimethylbenzene, all isomers | 3.4 to 3.8         | -           | low       |
| Naphthalene                   | 3.4                | 36.5 to 168 | low       |
| Biphenyl                      | 4.008              | 1900        | high      |
| Cumene                        | 3.55               | 94.69       | low       |
| Xylenes, mixed isomers        | 3.12               | 8.1 to 25.9 | low       |
| Ethylbenzene                  | 3.6                | -           | low       |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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. 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.

**RCRA classification** : D001, D018

## Section 14. Transport information

|                                   | DOT Classification                                                                       | IMDG                                                                                     | IATA                                                                                       |
|-----------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>UN number</b>                  | NA1993                                                                                   | UN 1202                                                                                  | UN 1202                                                                                    |
| <b>UN proper shipping name</b>    | Diesel Fuel                                                                              | Diesel Fuel                                                                              | Diesel Fuel                                                                                |
| <b>Transport hazard class(es)</b> | 3<br> | 3<br> | 3<br> |
| <b>Packing group</b>              | III                                                                                      | III                                                                                      | III                                                                                        |
|                                   |                                                                                          |                                                                                          |                                                                                            |

## Section 14. Transport information

| Environmental hazards         | No.                                                                                                                                                                                                              | No. | No.                                                                                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Additional information</b> | <b>Packaging instruction</b><br><b>Passenger aircraft</b><br>Quantity limitation: 60 L<br>Packaging instructions: Y309<br><br><b>Cargo aircraft</b><br>Quantity limitation: 220 L<br>Packaging instructions: 310 | -   | <b>Cargo Aircraft Only</b> Quantity limitation: 220 L<br>Packaging instructions: 310<br><b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 60 L<br>Packaging instructions: 309Y |

**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.

## Section 15. Regulatory information

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** Ethylbenzene; Naphthalene; Toluene; Benzene  
**Clean Water Act (CWA) 311:** Ethylbenzene; Xylenes, mixed isomers; Naphthalene; Toluene; Benzene  
 This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

### SARA 302/304

#### Composition/information on ingredients

**SARA 304 RQ** : Not applicable.

### SARA 311/312

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

#### Composition/information on ingredients

| Name                          | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|-------------------------------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Fuels, diesel, No 2           | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| Trimethylbenzene, all isomers | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| Naphthalene                   | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| Biphenyl                      | No.         | No.                        | No.      | Yes.                            | No.                             |
| Cumene                        | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| Xylenes, mixed isomers        | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| Ethylbenzene                  | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |

### SARA 313

## Section 15. Regulatory information

|                                 | Product name | CAS number | %  |
|---------------------------------|--------------|------------|----|
| Form R - Reporting requirements | Naphthalene  | 91-20-3    | <1 |
|                                 | Ethylbenzene | 100-41-4   | <1 |
| Supplier notification           | Naphthalene  | 91-20-3    | <1 |
|                                 | Ethylbenzene | 100-41-4   | <1 |

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: Trimethylbenzene, all isomers; Ethyltoluene
- New York** : The following components are listed: Ethylbenzene; Cumene; Benzene, 1-methylethyl-; Naphthalene
- New Jersey** : The following components are listed: Ethylbenzene; Cumene; NAPHTHALENE; TRIMETHYL BENZENE (mixed isomers); BENZENE, TRIMETHYL-; ETHYLTOLUENES; BENZENE, ETHYLMETHYL-
- Pennsylvania** : The following components are listed: Ethylbenzene; Cumene; NAPHTHALENE; Trimethylbenzene, all isomers; Ethyltoluene

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

| Ingredient name            | %    | Cancer | Reproductive | No significant risk level                        | Maximum acceptable dosage level                 |
|----------------------------|------|--------|--------------|--------------------------------------------------|-------------------------------------------------|
| Naphthalene                | <1   | Yes.   | No.          | Yes.                                             | No.                                             |
| Cumene                     | <1   | Yes.   | No.          | No.                                              | No.                                             |
| Ethylbenzene               | <1   | Yes.   | No.          | 41 µg/day (ingestion)<br>54 µg/day (inhalation)  | No.                                             |
| Diesel exhaust particulate | <1   | Yes.   | No.          | No.                                              | No.                                             |
| Toluene                    | <0.1 | No.    | Yes.         | No.                                              | 7000 µg/day (ingestion)                         |
| Benzene                    | <0.1 | Yes.   | Yes.         | 6.4 µg/day (ingestion)<br>13 µg/day (inhalation) | 24 µg/day (ingestion)<br>49 µg/day (inhalation) |

### International regulations

#### International lists

- : **Australia inventory (AICS):** All components are listed or exempted.
- : **China inventory (IECSC):** All components are listed or exempted.
- : **Japan inventory:** Not determined.
- : **Korea inventory:** All components are listed or exempted.
- : **Malaysia Inventory (EHS Register):** Not determined.
- : **New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- : **Philippines inventory (PICCS):** All components are listed or exempted.
- : **Taiwan inventory (CSNN):** Not determined.

#### Canada inventory

- : All components are listed or exempted.

#### EU Inventory

- : All components are listed or exempted.

#### WHMIS (Canada)

- : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
- : Class D-2A: Material causing other toxic effects (Very toxic).

## Section 16. Other information

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### History

**Date of issue/Date of revision** : 5/28/2015.

**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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

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