

# SAFETY DATA SHEET

TruFuel 40 Fuel



## Section 1. Identification

**GHS product identifier** : TruFuel 40 Fuel  
**Product code** : 301164210000  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

Identified uses	
Fuel.	
Uses advised against	Reason
None known.	

**Supplier's details** : Calumet Branded Products, LLC  
2780 Waterfront Pkwy E. Drive Suite 200  
Indianapolis, IN 46214  
USA  
Technical Services:317-328-5660

**Emergency telephone number** : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

## 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  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
CARCINOGENICITY - Category 2  
TOXIC TO REPRODUCTION - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
ASPIRATION HAZARD - Category 1  
AQUATIC HAZARD (ACUTE) - Category 3  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazards identification

- Hazard statements** : Highly flammable liquid and vapor.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure. (hearing organs, kidneys, liver)  
Harmful to aquatic life.  
Toxic to aquatic life with long lasting effects.
- Precautionary statements**
- General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Wash thoroughly after handling.
- Response** : Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or 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 advice or attention.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.
- Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
Naphtha (petroleum), full-range alkylate, butane-contg.	≥50 - ≤75	68527-27-5
toluene	≥25 - ≤31	108-88-3
isopentane	≤10	78-78-4
pentane	≤10	109-66-0
ethylbenzene	≤2.7	100-41-4
1,2,4-trimethylbenzene	≤0.1	95-63-6

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

## Section 3. Composition/information on ingredients

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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 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. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

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

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, 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. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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** : 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.

## Section 6. Accidental release measures

**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. 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. 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 swallow. 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. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

#### [Occupational exposure limits](#)

Ingredient name	Exposure limits
<p><input checked="" type="checkbox"/> Naphtha (petroleum), full-range alkylate, butane-contg. toluene</p>	<p><b>ACGIH TLV (United States).</b> TWA: 200 ppm 8 hours. <b>ACGIH TLV (United States, 1/2022).</b> <b>Ototoxicant.</b> TWA: 20 ppm 8 hours. <b>OSHA PEL Z2 (United States, 2/2013).</b> TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 100 ppm 8 hours. TWA: 375 mg/m<sup>3</sup> 8 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m<sup>3</sup> 15 minutes. <b>NIOSH REL (United States, 10/2020).</b> TWA: 100 ppm 10 hours. TWA: 375 mg/m<sup>3</sup> 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m<sup>3</sup> 15 minutes. <b>CAL OSHA PEL (United States, 5/2018).</b> <b>Absorbed through skin.</b> STEL: 560 mg/m<sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. C: 500 ppm TWA: 37 mg/m<sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.</p>
isopentane	<p><b>ACGIH TLV (United States, 1/2022).</b> <b>[Pentane all isomers]</b> TWA: 1000 ppm 8 hours.</p>
pentane	<p><b>ACGIH TLV (United States, 1/2022).</b> <b>[Pentane all isomers]</b> TWA: 1000 ppm 8 hours. <b>OSHA PEL (United States, 5/2018).</b> TWA: 1000 ppm 8 hours. TWA: 2950 mg/m<sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 600 ppm 8 hours. TWA: 1800 mg/m<sup>3</sup> 8 hours. STEL: 750 ppm 15 minutes. STEL: 2250 mg/m<sup>3</sup> 15 minutes. <b>NIOSH REL (United States, 10/2020).</b> TWA: 120 ppm 10 hours. TWA: 350 mg/m<sup>3</sup> 10 hours. CEIL: 610 ppm 15 minutes. CEIL: 1800 mg/m<sup>3</sup> 15 minutes. <b>CAL OSHA PEL (United States, 5/2018).</b> TWA: 1800 mg/m<sup>3</sup> 8 hours. TWA: 600 ppm 8 hours.</p>
ethylbenzene	<p><b>ACGIH TLV (United States, 1/2022).</b> <b>Ototoxicant.</b> TWA: 20 ppm 8 hours. <b>OSHA PEL (United States, 5/2018).</b> TWA: 100 ppm 8 hours. TWA: 435 mg/m<sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 100 ppm 8 hours.</p>

## Section 8. Exposure controls/personal protection

1,2,4-trimethylbenzene	<p>TWA: 435 mg/m<sup>3</sup> 8 hours.                      STEL: 125 ppm 15 minutes.                      STEL: 545 mg/m<sup>3</sup> 15 minutes.  <b>NIOSH REL (United States, 10/2020).</b>                      TWA: 100 ppm 10 hours.                      TWA: 435 mg/m<sup>3</sup> 10 hours.                      STEL: 125 ppm 15 minutes.                      STEL: 545 mg/m<sup>3</sup> 15 minutes.  <b>CAL OSHA PEL (United States, 5/2018).</b>                      STEL: 130 mg/m<sup>3</sup> 15 minutes.                      STEL: 30 ppm 15 minutes.                      TWA: 22 mg/m<sup>3</sup> 8 hours.                      TWA: 5 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>  <b>[Trimethyl benzene]</b>                      TWA: 25 ppm 8 hours.                      TWA: 125 mg/m<sup>3</sup> 8 hours.  <b>NIOSH REL (United States, 10/2020).</b>                      TWA: 25 ppm 10 hours.                      TWA: 125 mg/m<sup>3</sup> 10 hours.  <b>ACGIH TLV (United States, 1/2022).</b>                      TWA: 10 ppm 8 hours.  <b>CAL OSHA PEL (United States, 5/2018).</b>  <b>[trimethylbenzene, all isomers]</b>                      TWA: 125 mg/m<sup>3</sup> 8 hours.                      TWA: 25 ppm 8 hours.</p>
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### Biological exposure indices

Ingredient name	Exposure indices
Toluene	<p><b>ACGIH BEI (United States, 1/2022)</b>                      BEI: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift.                      BEI: 0.3 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift.                      BEI: 0.02 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.</p>
ethylbenzene	<p><b>ACGIH BEI (United States, 1/2022)</b>                      BEI: 0.15 g/g creatinine, sum of mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift.</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, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid. [Mobile liquid.]
- Color** : Green.
- Odor** : Characteristic. Hydrocarbon.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : >54.444°C (>130°F)
- Flash point** : Closed cup: -40°C (-40°F)
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Isopentane	592.55	79				

- Relative vapor density** : Not available.
- Relative density** : 0.732
- Solubility(ies)** :
- Solubility in water** : Not available.

Media	Result
Cold water	Partially soluble
hot water	Partially soluble



## Section 9. Physical and chemical properties and safety characteristics

**Partition coefficient: n-octanol/water** : Not applicable.

Auto-ignition temperature	Ingredient name	°C	°F	Method
	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	215	419	EU A.15

**Decomposition temperature** : Not available.

**Viscosity** : Kinematic (40°C (104°F)): <20.5 mm<sup>2</sup>/s (<20.5 cSt)

**Flow time (ISO 2431)** : Not available.

### Particle characteristics

**Median particle size** : Not applicable.

## 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.

**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
Naphtha (petroleum), full-range alkylate, butane-contg.	LC50 Inhalation Vapor	Rat	5610 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	5000 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
isopentane	LC50 Inhalation Vapor	Rat	280000 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	>2000 mg/kg	-
pentane	LC50 Inhalation Vapor	Rat	364 g/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	>2000 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>3440 mg/kg	-
	LD50 Oral	Rat	5 g/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant	Rabbit	-	870 ug	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 uL	-
	Skin - Mild irritant Skin - Moderate irritant	Rabbit Rabbit	- -	435 mg 24 hours 20 mg	- -
ethylbenzene	Skin - Moderate irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary** : Animal tumorigen. May cause tumors.

### Classification

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
ethylbenzene	-	2B	-

### Reproductive toxicity

Not available.

**Conclusion/Summary** : Reproductive toxicant - female Suspected of damaging the unborn child if inhaled.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Naphtha (petroleum), full-range alkylate, butane-contg. toluene	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation
isopentane	Category 3	-	Narcotic effects
pentane	Category 3	-	Narcotic effects
1,2,4-trimethylbenzene	Category 3	-	Respiratory tract irritation
	Category 3	-	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
toluene	Category 2	-	kidneys, liver
ethylbenzene	Category 2	-	hearing organs

### Aspiration hazard

## Section 11. Toxicological information

Name	Result
Naphtha (petroleum), full-range alkylate, butane-contg.	ASPIRATION HAZARD - Category 1
toluene	ASPIRATION HAZARD - Category 1
isopentane	ASPIRATION HAZARD - Category 1
pentane	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
1,2,4-trimethylbenzene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

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

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Section 11. Toxicological information

### Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure. 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.
- Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
TruFuel 40 Fuel Bulk	2310.6	3690.8	201752.8	N/A	N/A
Naphtha (petroleum), full-range alkylate, butane-contg.	N/A	2500	N/A	N/A	N/A
toluene	636	5000	N/A	49	N/A
isopentane	2500	N/A	N/A	280	N/A
pentane	2500	N/A	N/A	364	N/A
ethylbenzene	3500	N/A	4000	N/A	N/A
1,2,4-trimethylbenzene	5000	2500	N/A	18	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
toluene	Acute EC50 >433 ppm Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - <i>Gammarus pseudolimnaeus</i> - Adult	48 hours
isopentane	Acute EC50 6000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - <i>Oncorhynchus kisutch</i> - Fry	96 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute EC50 2.3 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
ethylbenzene	Acute EC50 4900 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	72 hours
	Acute EC50 7700 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - <i>Artemia sp.</i> - Nauplii	48 hours
1,2,4-trimethylbenzene	Acute EC50 2.93 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute LC50 4910 µg/l Marine water	Crustaceans - <i>Elasmopus pecteniscrus</i> - Adult	48 hours
	Acute LC50 7720 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours

### Persistence and degradability

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
isopentane	301F Ready Biodegradability - Manometric Respirometry Test	71.43 % - 28 days	-	-
ethylbenzene	301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	70 to 80 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily
isopentane	-	-	Readily
ethylbenzene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Naphtha (petroleum), full-range alkylate, butane-contg.	-	10 to 2500	High
toluene	2.73	90	Low
isopentane	3	171	Low
pentane	3.45	171	Low
ethylbenzene	3.6	-	Low
1,2,4-trimethylbenzene	3.63	243	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. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**RCRA classification** :  001, D018 [Flammable Benzene]

## Section 14. Transport information

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1203	UN1203	UN1203	UN1203
UN proper shipping name	Gasoline RQ (toluene, benzene)	GASOLINE. Marine pollutant (Naphtha (petroleum), full-range alkylate, butane-contg., isopentane)	GASOLINE. Marine pollutant (Naphtha (petroleum), full-range alkylate, butane-contg., isopentane)	Gasoline
Transport hazard class(es)	3 	3  	3  	3 
Packing group	II	II	II	II
Environmental hazards	No.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

#### DOT Classification

- : **Reportable quantity** 3663.8 lbs / 1663.4 kg [600.3 gal / 2272.4 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- Limited quantity** Yes.
- Packaging instruction** Exceptions: 150. Non-bulk: 202. Bulk: 242.
- Quantity limitation** Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
- Special provisions** 144, 177, B1, B33, IB2, T4
- Remarks** May be classed as a Consumer Commodity, ORM-D for Small Packages, see 49CFR 173.150

#### TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.
- Explosive Limit and Limited Quantity Index** 30
- Passenger Carrying Vessel Index** 100
- Passenger Carrying Road or Rail Index** 5
- Special provisions** 17, 88, 98, 150

#### IMDG

- : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Emergency schedules** F-E, S-E
- Special provisions** 243

#### IATA

- : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
- Special provisions** A100

- 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 IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) PAIR: pentane  
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 Clean Water Act (CWA) 307: toluene; ethylbenzene; benzene  
 Clean Water Act (CWA) 311: toluene; ethylbenzene; benzene; xylene  
 Clean Air Act (CAA) 112 regulated flammable substances: isopentane; pentane

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

Clean Air Act Section 602 : Not listed  
 Class I Substances

Clean Air Act Section 602 : Not listed  
 Class II Substances

DEA List I Chemicals : Not listed  
 (Precursor Chemicals)

DEA List II Chemicals : Not listed  
 (Essential Chemicals)

### SARA 302/304

#### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 2  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 CARCINOGENICITY - Category 2  
 TOXIC TO REPRODUCTION - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 ASPIRATION HAZARD - Category 1  
 HNOC - Defatting irritant

#### Composition/information on ingredients

Name	%	Classification
<input checked="" type="checkbox"/> Naphtha (petroleum), full-range alkylate, butane-contg.	≥50 - ≤75	FLAMMABLE LIQUIDS - Category 1 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
toluene	≥25 - ≤31	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
isopentane	≤10	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 HNOC - Static-accumulating flammable liquid FLAMMABLE LIQUIDS - Category 1

## Section 15. Regulatory information

pentane	≤10	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Static-accumulating flammable liquid HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 2 SIMPLE ASPHYXIANTS SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Static-accumulating flammable liquid HNOC - Defatting irritant
ethylbenzene	≤2.7	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 HNOC - Static-accumulating flammable liquid
1,2,4-trimethylbenzene	≤0.1	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Toluene	108-88-3	≥25 - ≤31
	ethylbenzene	100-41-4	≤2.7
Supplier notification	Toluene	108-88-3	≥25 - ≤31
	ethylbenzene	100-41-4	≤2.7

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: TOLUENE; ISOPENTANE; PENTANE; ETHYL BENZENE

#### New York

: The following components are listed: Toluene; Ethylbenzene

#### New Jersey

: The following components are listed: TOLUENE; ISOPENTANE; PENTANE; ETHYL BENZENE

#### Pennsylvania

: The following components are listed: BENZENE, METHYL-; BUTANE, 2-METHYL-; PENTANE; BENZENE, ETHYL-

### California Prop. 65

**WARNING:** This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). Information provided is based on industrial use and may not be relevant to consumer applications.

Ingredient name	Concentration (%)	No significant risk level	Maximum acceptable dosage level
Toluene	15.596 - 27.294	-	Yes.
Ethylbenzene	0.078007 - 2.3396	Yes.	-
Benzene	0.070184	Yes.	Yes.
cumene	0.00022 - 0.001078	-	-



## Section 15. Regulatory information

### International lists

#### National inventory

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: Not determined.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : All components are listed or exempted.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

## Section 16. Other information

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



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### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method
AQUATIC HAZARD (ACUTE) - Category 3	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

### History

<b>Date of issue/Date of revision</b>	: 09/29/2023
<b>Date of previous issue</b>	: 12/15/2022
<b>Version</b>	: 4

## Section 16. Other information

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

▣ Indicates information that has changed from previously issued version.

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