# **Material Safety Data Sheet**

CALUMET SPECIALTY PRODUCTS PARTNERS, L.P.

TruFuel 50:1 Mix

# 1. Product and company identification

Product name : TruFuel 50:1 Mix

Supplier : Calumet Packaging 10411 Highway 1

Shreveport, LA 71115 USA

318-795-3800

Material uses : Consumer products: Fuel.

Industrial applications: Fuel.

Product code : 0125600 Validation date : 10/14/2013.

Version : 2

In case of emergency : 24hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

Product type : Liquid.

# 2. Hazards identification

### **Emergency overview**

Physical state : Liquid. [Mobile liquid.]

Color : Red

Odor : Characteristic. Hydrocarbon.

Signal word : DANGER!

Hazard statements : EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY

CAUSE FLASH FIRE. INHALATION CAUSES HEADACHES, DIZZINESS,

DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES EYE AND SKIN IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE. BASED ON ANIMAL DATA. CANCER HAZARD - CAN CAUSE

CANCER. POSSIBLE REPRODUCTIVE HAZARD - MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES, BASED ON ANIMAL DATA.

**Precautionary measures**: Do not handle until all safety precautions have been read and understood. Obtain

special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Keep container tightly closed. Use personal protective equipment as required. Wash

thoroughly after handling.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Routes of entry : Eyes, Skin, Ingestion, Inhalation

Potential acute health effects

Inhalation : Can cause central nervous system (CNS) depression.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. Aspiration

hazard if swallowed. Can enter lungs and cause damage.

Skin : Irritating to skin.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

See toxicological information (Section 11)

# 3. Composition/information on ingredients

Name	CAS number	% by weight
Naphtha (petroleum), full-range alkylate, butane-contg.	68527-27-5	50 - 60
isopentane	78-78-4	10 - 20
pentane	109-66-0	10 - 20
toluene	108-88-3	5 - 10
xylene	1330-20-7	5 - 10
ethylbenzene	100-41-4	1 - 5

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

## 4. First aid measures

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: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

#### Skin contact

: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

## Inhalation

: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

## Ingestion

: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## **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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

# 5. Fire-fighting measures

Flammability of the product

: Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

#### Extinguishing media

**Suitable** 

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

Not suitable

: Do not use water jet.

Special exposure hazards

: 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.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

Special protective equipment for fire-fighters

carbon dioxide

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

## 6. Accidental release measures

## **Personal precautions**

: 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

## **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 for 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.

# 7. Handling and storage

### **Handling**

: Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

## **Storage**

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

# 8. Exposure controls/personal protection

Ingredient	Exposure limits
Naphtha (petroleum), full-range alkylate, butane-	ACGIH TLV (United States).
contg.	TWA: 200 ppm 8 hours.
isopentane	ACGIH TLV (United States, 3/2012).
	TWA: 600 ppm 8 hours.
pentane	ACGIH TLV (United States, 3/2012).
	TWA: 600 ppm 8 hours.
	OSHA PEL (United States, 6/2010).
	TWA: 1000 ppm 8 hours.
	TWA: 2950 mg/m³ 8 hours.
toluene	ACGIH TLV (United States, 3/2012).
	TWA: 20 ppm 8 hours.
xylene	ACGIH TLV (United States, 3/2012).
	TWA: 100 ppm 8 hours.
	TWA: 434 mg/m³ 8 hours.
	STEL: 150 ppm 15 minutes.
	STEL: 651 mg/m³ 15 minutes.
	OSHA PEL (United States, 6/2010).
	TWA: 100 ppm 8 hours.
	TWA: 435 mg/m <sup>3</sup> 8 hours.
ethylbenzene	ACGIH TLV (United States, 3/2012).
	TWA: 20 ppm 8 hours.
	OSHA PEL (United States, 6/2010).
	TWA: 100 ppm 8 hours.
	TWA: 435 mg/m <sup>3</sup> 8 hours.

# Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

## **Engineering measures**

: 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.

## **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.

# Personal protection Respiratory

: Use a properly fitted, air-purifying or air-fed 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.

## Hands

: 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.

# 8. Exposure controls/personal protection

: Safety eyewear complying with an approved standard should be used when a risk **Eyes** assessment indicates this is necessary to avoid exposure to liquid splashes, mists or

dusts. If contact is possible, the following protection should be worn, unless the

assessment indicates a higher degree of protection: chemical splash goggles.

: 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.

**Environmental exposure** 

controls

Skin

: 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.

# 9. Physical and chemical properties

**Physical state** : Liquid. [Mobile liquid.]

Flash point : Closed cup: -40°C (-40°F) [Tagliabue.]

Color : Red.

Odor : Characteristic Hydrocarbon. **Boiling/condensation point** : 34,444 to 190,56°C (94 to 375°F)

**Relative density** : 0.72

**Viscosity** : Kinematic (40°C (104°F)): <0.01 cm<sup>2</sup>/s (<1 cSt)

Solubility Insoluble in the following materials: cold water and hot water.

API Gravity @60°F : 65

# 10. Stability and reactivity

Chemical stability : The product is stable.

**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 : Highly reactive or incompatible with the following materials:

oxidizing materials

**Hazardous decomposition** 

products

Possibility of hazardous

reactions

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

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

# 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Naphtha (petroleum), full- range alkylate, butane-contg.	LD50 Oral	Rat	>5000 mg/kg	-
isopentane	LC50 Inhalation Vapor	Rat	280000 mg/m <sup>3</sup>	4 hours
pentane	LC50 Inhalation Vapor	Rat	364 g/m <sup>3</sup>	4 hours
xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	_
	LD50 Oral	Rat	3500 mg/kg	_
toluene	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	636 mg/kg	-

Conclusion/Summary : Not available. TruFuel 50:1 Mix

# 11. Toxicological information

**Chronic toxicity** 

Conclusion/Summary :

: Not available.

Carcinogenicity

**Conclusion/Summary** 

: Animal tumorigen. May cause tumors.

**Classification** 

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
toluene	A4	3	-	-	-	-
xylene	A4	3	-	-	-	-
ethylbenzene	A3	2B	-	-	_	-

**Mutagenicity** 

**Conclusion/Summary**: Not available.

**Teratogenicity** 

**Conclusion/Summary**: Not available.

**Reproductive toxicity** 

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

# 12. Ecological information

**Ecotoxicity** 

: No known significant effects or critical hazards.

## **Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
xylene	Acute LC50 8500 μg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 3300 μg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 μg/l Fresh water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 2930 μg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 μg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
toluene	Acute EC50 12500 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 μg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water Chronic NOEC 1000 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry Daphnia - Daphnia magna	96 hours 21 days

Conclusion/Summary

: Not available.

Persistence/degradability

**Conclusion/Summary**: Not available.

# 13. Disposal considerations

## Waste disposal

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

: D001 [Flammable]

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

# 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1203	Gasoline	3	П	FLAMMABLE LIQUID	Limited quantity Yes.
					3	Packaging instruction Passenger aircraft Quantity limitation: 5 L
						Cargo aircraft Quantity limitation: 60 L
						<b>Special provisions</b> 144, 177, B1, B33, IB2, T8
						Remarks May be classed as a Consumer Commodity, ORM-D for Small Packages, see 49CFR 173.150
IMDG Class	UN1203	GASOLINE. Marine pollutant (pentane, toluene)	3	II	<b>1 1 1 1 1 1 1 1 1 1</b>	Emergency schedules (EmS) F-E, S-E
		2405				

14. Transport information								

PG\*: Packing group

# 15. Regulatory information

**HCS Classification** : Flammable liquid

Irritating material Carcinogen

Target organ effects

U.S. Federal regulations : TSCA 8(a) PAIR: pentane

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312 Hazards identification: Fire hazard, Immediate (acute) health hazard,

Delayed (chronic) health hazard

Clean Water Act (CWA) 307: ethylbenzene; toluene

Clean Water Act (CWA) 311: xylene; ethylbenzene; toluene

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 | Substances** 

Clean Air Act Section 602

**Class II Substances** 

: Not listed

**DEA List | Chemicals** 

(Precursor Chemicals)

: Not listed

**DEA List II Chemicals** (Essential Chemicals)

: Listed

## **SARA 313**

	Product name	CAS number	Concentration
Form R - Reporting requirements	toluene	108-88-3	5 - 10
	xylene	1330-20-7	5 - 10
	ethylbenzene	100-41-4	1 - 5
Supplier notification	toluene	108-88-3	5 - 10
	xylene	1330-20-7	5 - 10
	ethylbenzene	100-41-4	1 - 5

# 15. Regulatory information

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

### State regulations

**Massachusetts** : The following components are listed: XYLENE; ETHYL BENZENE; TOLUENE;

ISOPENTANE: PENTANE

**New York** : The following components are listed: Xylene (mixed); Ethylbenzene; Toluene

The following components are listed: XYLENES; BENZENE, DIMETHYL-; ETHYL **New Jersey** 

BENZENE; BENZENE, ETHYL-; TOLUENE; BENZENE, METHYL-; ISOPENTANE;

BUTANE, 2-METHYL-; PENTANE

**Pennsylvania** : The following components are listed: BENZENE, DIMETHYL-; BENZENE, ETHYL-;

BENZENE, METHYL-; BUTANE, 2-METHYL-; PENTANE

## California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
toluene	No.	Yes.	No.	7000 µg/day (ingestion)
ethylbenzene	Yes.		41 μg/day (ingestion) 54 μg/day (inhalation)	No.

### **Canada**

WHMIS (Canada) Class B-2: Flammable liquid

> Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists** 

**Canadian NPRI** The following components are listed: Xylene (all isomers); Ethylbenzene; Toluene;

Pentane (all isomers); Pentane (all isomers)

**CEPA Toxic substances** 

None of the components are listed.

Canada inventory

: All components are listed or exempted.

International regulations

International lists : Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): Not determined.

Japan inventory: Not determined.

**Korea inventory**: All components are listed or exempted. Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Philippines inventory (PICCS): Not determined. Taiwan inventory (CSNN): Not determined.

: All components are listed or exempted. **Europe inventory** 

: Not listed

: Not listed

**Chemical Weapons** 

**Convention List Schedule** 

**I Chemicals** 

**Convention List Schedule** 

**Chemical Weapons** 

**II Chemicals** 

**Chemical Weapons** : Not listed

**Convention List Schedule** 

**III Chemicals** 

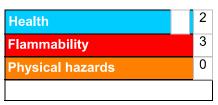
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## 16. Other information

**Label requirements** 

EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES EYE AND SKIN IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CAN CAUSE CANCER. POSSIBLE REPRODUCTIVE HAZARD - MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES, BASED ON ANIMAL DATA.

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



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Date of issue : 10/14/2013.

Date of previous issue : 9/18/2013.

Version : 2

Prepared by : Technical Department

▼ Indicates information that has changed from previously issued version.

## **Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.