Fuel Cells For Nailer (High-pressure)

Safety Data Sheet

according to Federal Register / Vol. 89, No. 98 / Monday, May 20, 2024 / Rules and Regulations
SDS Reference Number: CSSS-TCO-010-163415
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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Fuel Cells For Nailer (High-pressure)

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Combustion.
Restrictions on use : Not available

1.3. Supplier

Supplier

TRUFAST WALLS
130 Graham St SW
Grand Rapids, MI 49503
wallssales@trufast.com

1.4. Emergency telephone number

Emergency number : 616-454-3100

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable gases Category 1	H220	Extremely flammable gas
Gases under pressure Liquefied gas	H280	Contains gas under pressure; may explode if heated

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
1-Propene ; Propylene	CAS-No.: 115-07-1	40 – 60	H220 H280
2-Methylpropane ; Isobutane	CAS-No.: 75-28-5	15 – 60	H220 H280
Butane	CAS-No.: 106-97-8	0 – 15	H220 H280
Propane	CAS-No.: 74-98-6	0 – 15	H220 H280

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

First-aid measures after skin contact : Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

First-aid measures after eye contact : For contact with the liquefied gas, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

First-aid measures after ingestion : This material is a gas under normal atmospheric conditions and ingestion is unlikely.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : None under normal conditions. Contact with the liquefied gas may cause frostbite.

Symptoms/effects after eye contact : None under normal conditions. Contact with the liquefied gas may cause severe ocular lesions.

Symptoms/effects after ingestion : None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Extremely flammable gas.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire	:	This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Closed containers exposed to extreme heat can rupture due to pressure buildup.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Stop leak, if possible without risk.
Methods for cleaning up	:	Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment. Water spray may be useful in minimizing or dispersing vapors.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 30 °C. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1-Propene ; Propylene (115-07-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Propylene
ACGIH OEL TWA	500 ppm
Remark (ACGIH)	TLV® Basis: Asphyxia; URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

Butane (106-97-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Butane
ACGIH OEL STEL	1000 ppm (EX - Explosion hazard)
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2024

Propane (74-98-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Propane
Remark (ACGIH)	TLV® Basis: Simple Asphyxiant
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Propane
OSHA PEL TWA	1800 mg/m³
	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

2-Methylpropane ; Isobutane (75-28-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Isobutane
ACGIH OEL STEL	1000 ppm (EX - Explosion hazard)
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2024

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Gas.
Color	:	Colorless
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Extremely flammable gas.
Vapor pressure	:	17.8 bar ,50°C
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Slightly soluble in: alcohols. Ether. Water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable gas.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides, water.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

2-Methylpropane ; Isobutane (75-28-5)	
LC50 Inhalation - Rat	658 mg/l,4H

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not applicable
Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : None under normal conditions. Contact with the liquefied gas may cause frostbite.
Symptoms/effects after eye contact : None under normal conditions. Contact with the liquefied gas may cause severe ocular lesions.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Other adverse effects

Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

UN-No.(DOT) : UN1965
UN-No. (TDG) : UN1965
UN-No. (IMDG) : 1965
UN-No. (IATA) : 1965

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Hydrocarbon gas mixture, liquefied, n.o.s. (Propene, Isobutane, Butane,Propane)
Proper Shipping Name (TDG) : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Propene, Isobutane, Butane,Propane)
Proper Shipping Name (IMDG) : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Propene, Isobutane, Butane,Propane)
Proper Shipping Name (IATA) : Hydrocarbon gas mixture, liquefied, n.o.s. (Propene, Isobutane, Butane,Propane)

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 2.1
Hazard labels (DOT) : 2.1

TDG

Transport hazard class(es) (TDG) : 2.1
Hazard labels (TDG) : 2.1

IMDG

Transport hazard class(es) (IMDG) : 2.1
Hazard labels (IMDG) : 2.1

IATA

Transport hazard class(es) (IATA) : 2.1
Hazard labels (IATA) : 2.1

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1965
DOT Special Provisions (49 CFR 172.102) : T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx) : 306
DOT Packaging Non Bulk (49 CFR 173.xxx) : 304
DOT Packaging Bulk (49 CFR 173.xxx) : 314, 315
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
DOT Vessel Stowage Location : E - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other : 40 - Stow ‘‘clear of living quarters’’

TDG

UN-No. (TDG) : UN1965

TDG Special Provisions	:	16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS.
ERAP Index	:	3000
Explosive Limit and Limited Quantity Index	:	0.125 L
Excepted quantities (TDG)	:	E0
Passenger Carrying Ship Index	:	Forbidden
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	Forbidden
Emergency Response Guide (ERG) Number	:	115

IMDG

Special provision (IMDG)	:	274, 392
Limited quantities (IMDG)	:	0
Excepted quantities (IMDG)	:	E0
Packing instructions (IMDG)	:	P200
Tank instructions (IMDG)	:	T50
EmS-No. (Fire)	:	F-D - FIRE SCHEDULE Delta - FLAMMABLE GASES
EmS-No. (Spillage)	:	S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)
Stowage category (IMDG)	:	E
Stowage and handling (IMDG)	:	SW2
Properties and observations (IMDG)	:	Liquefied flammable hydrocarbon gas obtained from natural gas or by distillation of mineral oils or coal, etc. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air.

IATA

PCA Excepted quantities (IATA)	:	E0
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	Forbidden
PCA max net quantity (IATA)	:	Forbidden
CAO packing instructions (IATA)	:	200
CAO max net quantity (IATA)	:	150kg
Special provision (IATA)	:	A1
ERG code (IATA)	:	10L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Fuel Cells For Nailer (High-pressure)	
SARA Section 311/312 Hazard Classes	Physical hazard - Gas under pressure Physical hazard - Flammable (gases, aerosols, liquids, or solids)

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
1-Propene ; Propylene	115-07-1	Present	Active	
Butane	106-97-8	Present	Active	
Propane	74-98-6	Present	Active	
2-Methylpropane ; Isobutane	75-28-5	Present	Active	

1-Propene ; Propylene (115-07-1)

Subject to reporting requirements of United States SARA Section 313

Butane (106-97-8)

Not subject to reporting requirements of the United States SARA Section 313

Propane (74-98-6)

Not subject to reporting requirements of the United States SARA Section 313

2-Methylpropane ; Isobutane (75-28-5)

Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

1-Propene ; Propylene (115-07-1)

Listed on the Canadian DSL (Domestic Substances List)

Butane (106-97-8)

Listed on the Canadian DSL (Domestic Substances List)

Propane (74-98-6)

Listed on the Canadian DSL (Domestic Substances List)

2-Methylpropane ; Isobutane (75-28-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

1-Propene ; Propylene (115-07-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Butane (106-97-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Propane (74-98-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

2-Methylpropane ; Isobutane (75-28-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 10/9/2024

Full text of hazard classes and H-statements	
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.