

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name | 2-Methyl-1-butene (1%), Propane (Balance)

Product Code | M-200125/E-1

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

Relevant identified use(s) | Test Gas/Calibration Gas

1.3 Details of the supplier of the safety data sheet

Manufacturer | Air Liquide
2700 Post Oak Blvd.
Houston, TX 77056
United States
www.us.airliquide.com
sds@airliquide.com

Telephone (Technical) | 713-896-2896

Telephone (Technical) | 800-819-1704

1.4 Emergency telephone number

Manufacturer | 800-424-9300 - CHEMTREC

Manufacturer | +1 703-527-3887 - Outside United States

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP | Flammable Gases 1 - H220
Liquefied Gas - H280

DSD/DPD | Extremely Flammable (F+)
R12

2.2 Label Elements

CLP

DANGER



Hazard statements | H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated

Precautionary statements

Prevention | P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.

Response | P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.

Storage/Disposal | Protect from sunlight when ambient temperature exceeds 125°F (52°C)
P403 - Store in a well-ventilated place.

DSD/DPD



Risk phrases | R12 - Extremely flammable.

Safety phrases | S9 - Keep container in a well ventilated place
S16 - Keep away from sources of ignition - No Smoking.

2.3 Other Hazards

CLP | Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite. This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD | Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite. This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. According to European Directive 1999/45/EC this preparation is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 | Flammable Gases 1 - H220
Liquefied Gas - H280
Simple Asphyxiant
Hazards Not Otherwise Classified - Health Hazard - Frostbite

2.2 Label elements

OSHA HCS 2012

DANGER



Hazard statements | Extremely flammable gas - H220
Contains gas under pressure; may explode if heated - H280
May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention | Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210

Response | Leaking gas fire: Do not extinguish, unless leak can be stopped safely. - P377
Eliminate all ignition sources if safe to do so. - P381

Storage/Disposal | Protect from sunlight when ambient temperature exceeds 125°F (52°C)
Store in a well-ventilated place. - P403

2.3 Other hazards

OSHA HCS 2012 | Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada**According to WHMIS****2.1 Classification of the substance or mixture**

WHMIS | Compressed Gas - A
Flammable Gases - B1

2.2 Label elements**WHMIS**

| Compressed Gas - A
Flammable Gases - B1

2.3 Other hazards**WHMIS**

| Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite. This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information**NFPA****Section 3 - Composition/Information on Ingredients****3.1 Substances**

| Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition			
Chemical Name	Identifiers	%	Classifications According to Regulation/Directive
2-Methylbutene-1	CAS:563-46-2 EINECS:209-250-7	1% TO 1%	EU DSD/DPD: Self Classified - F+; R12 EU CLP: Self Classified - Flam. Liq., H224 OSHA HCS 2012: Flam. Liq. 1
Propane	CAS:74-98-6 EC Number:200-827-9 EU Index:601-003-00-5	Balance	EU DSD/DPD: Annex I - F+; R12 EU CLP: Annex VI - Flam. Gas 1, H220; Press. Gas - Comp., H280 OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation** | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin** | If frostbite has occurred, seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has not occurred, immediately and thoroughly wash contaminated skin with soap and water.
- Eye** | If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation, pain, swelling, lacrimation or photophobia persist, get medical attention as soon as possible.
- Ingestion** | If frostbite has occurred, seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

- | Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician** | All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

4.4 Other information

- | Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

Section 5 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media** | SMALL FIRES: Dry chemical or CO₂.
LARGE FIRES: Water spray or fog.

- Unsuitable Extinguishing Media** | No data available

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** | EXTREMELY FLAMMABLE
Will form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.
Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
Containers may explode when heated.
Ruptured cylinders may rocket.

- Hazardous Combustion Products** | Toxic carbon monoxide may be given off during combustion.

5.3 Advice for firefighters

- | Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Wear positive pressure self-contained breathing apparatus (SCBA).
DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED
Move containers from fire area if you can do it without risk.
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.
FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.
FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.
FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.
FIRE INVOLVING TANKS: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- | Ventilate the area before entry. Do not walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- | ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile)

6.2 Environmental precautions

- | Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- | All equipment used when handling the product must be grounded.
Stop leak if you can do it without risk.
If possible, turn leaking containers so that gas escapes rather than liquid.
Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
Do not direct water at spill or source of leak.
Isolate area until gas has dispersed.

6.4 Reference to other sections

- | Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- | Keep away from heat and ignition sources – No Smoking. Use only with adequate ventilation. Take precautionary measures against static charges. Use only non-sparking tools. All equipment used when handling the product must be grounded. Use explosion-proof - electrical, ventilating and/or lighting equipment. Cylinders should be firmly secured to prevent falling or being knocked-over. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- | Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed

52C (125F). Cylinders must be protected from the environment, and preferably kept at room temperature approximately 21C (70F). Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over.

7.3 Specific end use(s)

Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	Germany DFG	Germany TRGS
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	1000 ppm TWAEV; 1800 mg/m3 TWAEV	Not established	1000 ppm TWA AGW (exposure factor 4); 1800 mg/m3 TWA AGW (exposure factor 4)
	Ceilings	Not established	Not established	Not established	4000 ppm Peak; 7200 mg/m3 Peak	Not established
	MAKs	Not established	Not established	Not established	1000 ppm TWA MAK; 1800 mg/m3 TWA MAK	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	Ireland	Israel	NIOSH	OSHA	OSHA Vacated
Propane (74-98-6)	TWAs	1000 ppm TWA	1000 ppm TWA (gas)	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA
Exposure Limits/Guidelines (Con't.)						
	Result	Portugal		Spain		
Propane (74-98-6)	TWAs	1000 ppm TWA [VLE-MP]		1000 ppm TWA [VLA-ED]		

Exposure Control Notations

Ireland

•Propane (74-98-6): **Simple Asphyxiants:** (Asphyxiant)

Germany DFG

•Propane (74-98-6): **Pregnancy:** (classification not yet possible)

8.2 Exposure controls

Engineering Measures/Controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof - electrical, ventilating and/or lighting equipment.

Personal Protective Equipment

Respiratory

In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

Wear safety glasses.

Skin/Body

Wear leather gloves when handling cylinders.

Environmental Exposure Controls

Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

OSHA = Occupational Safety and Health Administration

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

TWAEV = Time-Weighted Average Exposure Value

NIOSH = National Institute of Occupational Safety and Health

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties**9.1 Information on Physical and Chemical Properties**

Material Description			
Physical Form	Gas	Appearance/Description	Colorless liquefied gas with a sweet odor.
Color	Colorless	Odor	Sweet odor.
Odor Threshold	5000 to 20000 ppm		
General Properties			
Boiling Point	-42.1 C(-43.78 F)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizing gas.		
Volatility			
Vapor Pressure	8.42 atm @ 21 C(69.8 F)	Vapor Density	1.56 Air=1
Evaporation Rate	Data lacking		
Flammability			
Flash Point	-105 C(-157 F)	UEL	9.5 %
LEL	2.1 %	Autoignition	450 C(842 F)
Flammability (solid, gas)	Flammable Gas.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- | No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity**10.1 Reactivity**

- | No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- | Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- | Hazardous polymerization will not occur.

10.4 Conditions to avoid

- | Excess heat, sparks, open flame.

10.5 Incompatible materials

- | Oxidizers.

10.6 Hazardous decomposition products

- Carbon oxides and acid smoke may form.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. If this material is released in a small, poorly ventilated area (i.e. an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with decreased levels of oxygen: increase in breathing and pulse rate, emotional upset, abnormal fatigue, nausea, vomiting, collapse, loss of consciousness, convulsive movements, respiratory collapse and death.

Chronic (Delayed)

- No data available

Skin

Acute (Immediate)

- Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.

Chronic (Delayed)

- No data available

Eye

- Acute (Immediate)** | Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
Chronic (Delayed) | No data available

Ingestion

- Acute (Immediate)** | Ingestion can cause burns similar to frostbite.
Chronic (Delayed) | No data available

Section 12 - Ecological Information**12.1 Toxicity**

- | Material data lacking.

12.2 Persistence and degradability

- | Material data lacking.

12.3 Bioaccumulative potential

- | Material data lacking.

12.4 Mobility in Soil

- | Material data lacking.

12.5 Results of PBT and vPvB assessment

- | PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

- | No studies have been found.

Section 13 - Disposal Considerations**13.1 Waste treatment methods**

- Product waste** | Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Packaging waste | Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN3161	Liquefied gas, flammable, n.o.s. (Propane)	2.1	NDA	NDA
TDG	UN3161	LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propane)	2.1	NDA	Potential Marine Pollutant
IMO/MDG	UN3161	LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propane)	2.1	NDA	NDA
IATA/ICAO	UN3161	Liquefied Gas, Flammable, N.O.S. (Propane)	2.1	NDA	NDA

- 14.6 Special precautions for user** | Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles

can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

Not relevant.

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

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications | Acute, Fire, Pressure(Sudden Release of)

State Right To Know				
Component	CAS	MA	NJ	PA
2-Methylbutene-1	563-46-2	Yes	Yes	Yes
Propane	74-98-6	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
2-Methylbutene-1	563-46-2	Yes	No	Yes	Yes	No
Propane	74-98-6	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
2-Methylbutene-1	563-46-2	Yes
Propane	74-98-6	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- | | | |
|--------------------|----------|------------|
| • Propane | 74-98-6 | A, B1 |
| • 2-Methylbutene-1 | 563-46-2 | Not Listed |

Canada - WHMIS - Ingredient Disclosure List

- | | | |
|--------------------|----------|------------|
| • Propane | 74-98-6 | Not Listed |
| • 2-Methylbutene-1 | 563-46-2 | Not Listed |

Environment

Canada - CEPA - Priority Substances List

- | | | |
|--------------------|----------|------------|
| • Propane | 74-98-6 | Not Listed |
| • 2-Methylbutene-1 | 563-46-2 | Not Listed |

China

Environment

China - Ozone Depleting Substances - First Schedule

- | | | |
|--------------------|----------|------------|
| • Propane | 74-98-6 | Not Listed |
| • 2-Methylbutene-1 | 563-46-2 | Not Listed |

China - Ozone Depleting Substances - Second Schedule

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

China - Ozone Depleting Substances - Third Schedule

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Other**China - Annex I & II - Controlled Chemicals Lists**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

China - Dangerous Goods List

• Propane	74-98-6	
• 2-Methylbutene-1	563-46-2	

China - Export Control List - Part I Chemicals

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Europe**Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

• Propane	74-98-6	F+; R12
• 2-Methylbutene-1	563-46-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Propane	74-98-6	F+ R:12 S:(2)-9-16
• 2-Methylbutene-1	563-46-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Propane	74-98-6	S:(2)-9-16
• 2-Methylbutene-1	563-46-2	Not Listed

Germany**Environment****Germany - TA Luft - Types and Classes**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Propane	74-98-6	ID Number 560, not considered hazardous to water
• 2-Methylbutene-1	563-46-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Other**Germany - Specifically Regulated Chemicals in TRGS**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Portugal**Other****Portugal - Prohibited Substances**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

United Kingdom**Environment****United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Other**United Kingdom - Workplace Exposure Limits (WELs) - Substances in Review**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

United Kingdom - List of Dangerous Substances in Water

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

United States**Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

Environment**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

United States - Pennsylvania**Labor****U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Propane	74-98-6	Not Listed
• 2-Methylbutene-1	563-46-2	Not Listed

15.2 Chemical Safety Assessment

| No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

| H224 - Extremely flammable liquid and vapour

Last Revision Date

| 22/December/2014

Preparation Date

| 22/December/2014

Disclaimer/Statement of Liability

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Key to abbreviations

NDA = No Data Available