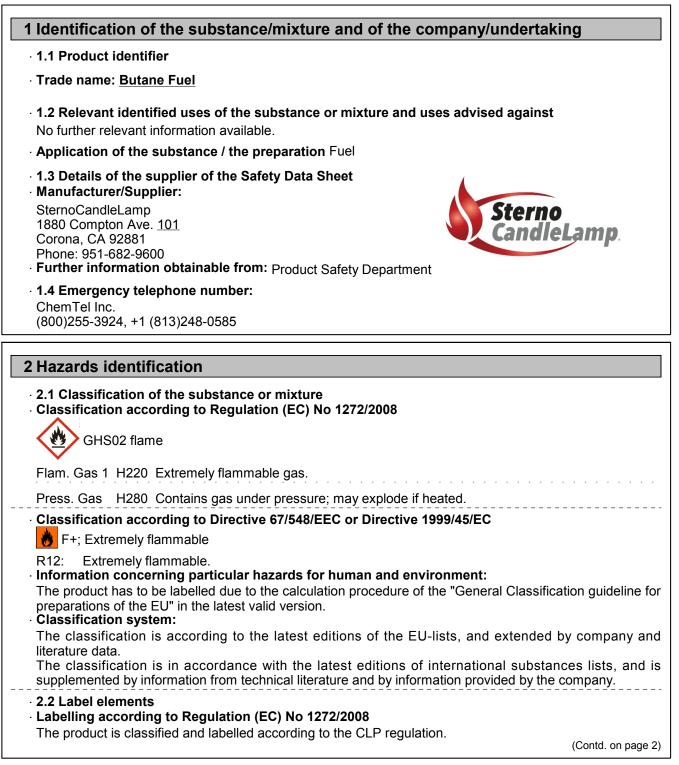
GHS

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Trade name: Butane Fuel	
· Hazard pictograms	(Contd. of page 1)
N 23	
GHS02	
· Signal word Danger	
· Hazard statements	
H220 Extremely flammable gas.	
H280 Contains gas under pressure; may explode if heated. • Precautionary statements	
P101 If medical advice is needed, have product container or label at hand.	
P102 Keep out of reach of children.	
P103 Read label before use.	
P210 Keep away from heat/sparks/open flames/hot surfaces 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.	
P410+P403 Protect from sunlight. Store in a well-ventilated place.	
P403 Store in a well-ventilated place.	
Additional information: N/A	
Hazard description:	
· WHMIS-symbols:	
A - Compressed gas B1 - Flammable gas	
· NFPA ratings (scale 0 - 4)	
Health = 0	
Fire = 4	
Reactivity = 0	
· HMIS-ratings (scale 0 - 4)	
HEALTH I Health = 0	
$\frac{FIRE}{4}$ Fire = 4	
Reactivity = 0	
· HMIS Long Term Health Hazard Substances	
None of the ingredients is listed.	
· 2.3 Other hazards	
Results of PBT and vPvB assessment	
• PBT: Not applicable.	
· vPvB: Not applicable.	
	(Contd. on page 3)

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3 Composition/information on ingredients

· 3.2 Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

 Dangerous components: 			
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0	butane	 ♦ F+ R12 ♦ Flam. Gas 1, H220 Press. Gas, H280 	50-100%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0	isobutane	 ♦ F+ R12 ♦ Flam. Gas 1, H220 Press. Gas, H280 	25-50%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5	propane	 ♦ F+ R12 ♦ Flam. Gas 1, H220 Press. Gas, H280 	2,5-10%
Additional information: For the wording of the listed risk phrases refer to section 16.			

4 First aid measures

· 4.1 Description of first aid measures

- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing: If symptoms persist consult doctor.

- 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

- CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.
- Additional information Cool endangered receptacles with water spray.

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6 Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

• 6.3 Methods and material for containment and cleaning up: Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· 7.1 Precautions for safe handling Open and handle receptacle with care.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

· 7.2 Conditions for safe storage, including any incompatibilities

Storage:

· Requirements to be met by storerooms and receptacles: Store in a cool location.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Keep container tightly sealed.

Do not seal receptacle gas tight.

Protect from heat and direct sunlight.

· 7.3 Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· 8.1 Control parameters

 Ingredients with limit values that require monitoring at the workplace: 		
106-97-8 but	ane	
REL (USA)	1900 mg/m³, 800 ppm	
TLV (USA)	Varies mg/m ³ , 1000 ppm	
EL (Canada)	Short-term value: 750 ppm Long-term value: 600 ppm	
EV (Canada)	800 ppm	
75-28-5 isob	utane	
REL (USA)	1900 mg/m³, 800 ppm	
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TLV (USA)	Varies mg/m ³ , 1000 ppm
EV (Canada)	800 ppm
74-98-6 prop	ane
PEL (USA)	1800 mg/m³, 1000 ppm
REL (USA)	1800 mg/m³, 1000 ppm
TLV (USA)	Varies mg/m³, 1000 ppm
EL (Canada)	1000 ppm
EV (Canada)	1,000 ppm
· Additional in	formation: The lists valid during the making were used as basis.
 Respiratory p Protection of The glove ma Due to missi preparation/ tl Selection of degradation Material of gl The selection quality and v substances, tl checked prior Penetration t 	terial has to be impermeable and resistant to the product/ the substance/ the preparation. Ing tests no recommendation to the glove material can be given for the product/ the e chemical mixture. The glove material on consideration of the penetration times, rates of diffusion and the oves of the suitable gloves does not only depend on the material, but also on further marks of aries from manufacturer to manufacturer. As the product is a preparation of severa he resistance of the glove material can not be calculated in advance and has therefore to b to the application. ime of glove material ak through time has to be found out by the manufacturer of the protective gloves and has the
Tight	
9 Physical a	nd chemical properties
9 Physical a 9.1 Informati General Infor	on on basic physical and chemical properties
9 Physical a 9.1 Informati General Infor Appearance:	on on basic physical and chemical properties mation
9 Physical a 9 9.1 Information General Information Appearance: Form:	on on basic physical and chemical properties mation Compressed liquefied gas
9 Physical a 9.1 Informati General Infor Appearance:	on on basic physical and chemical properties mation Compressed liquefied gas Colourless
9 Physical a 9.1 Informati General Infor Appearance: Form: Colour:	on on basic physical and chemical properties mation Compressed liquefied gas Colourless Like rotten eggs (mercaptans)

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	(Contd. of page
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	Undetermined. -11 °C
· Flash point:	< 0 °C
· Flammability (solid, gaseous):	Not determined.
· Ignition temperature:	365 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not self-igniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air vapour mixtures are possible.
 Explosion limits: Lower: Upper: 	1,5 Vol % 8,5 Vol %
· Vapour pressure at 20 °C:	3000 hPa
 Density at 20 °C: Relative density Vapour density Evaporation rate 	0,55 g/cm ³ Not determined. Not determined. Not applicable.
 Solubility in / Miscibility with water: 	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wa	iter): Not determined.
 Viscosity: Dynamic: Kinematic: 	Not determined. Not determined.
 Solvent content: Organic solvents: 9.2 Other information 	70,0 % No further relevant information available.

10 Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

• 10.3 Possibility of hazardous reactions No dangerous reactions known.

• **10.4 Conditions to avoid** No further relevant information available.

• 10.5 Incompatible materials: No further relevant information available.

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· 10.6 Hazardous decomposition products: Carbon monoxide

11 Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:
- Primary irritant effect:
- on the skin: No irritant effect.
- on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.

12 Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Generally not hazardous for water
- 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- **vPvB:** Not applicable.
- 12.6 Other adverse effects No further relevant information available.

13 Disposal considerations

· 13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information	
· 14.1 UN-Number · DOT, ADR, IMDG, IATA	UN1075
 14.2 UN proper shipping name DOT, IMDG, IATA ADR 	PETROLEUM GASES, LIQUEFIED 1075 PETROLEUM GASES, LIQUEFIED
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	(Contd. of page
 14.3 Transport hazard class(es) 	
DOT	
Class	2.1
Label	2.1
ADR	
Class	2 2F Gases.
Label	2.1
· IMDG, IATA	
Class	2.1
Label	2.1
 14.4 Packing group DOT, ADR, IMDG, IATA 	N/A
 14.5 Environmental hazards: Marine pollutant: 	No
14.6 Special precautions for user	Warning: Gases.
· Danger code (Kemler): · EMS Number:	20
	<u>F-D</u> ,S-U
• 14.7 Transport in bulk according to Ann MARPOL73/78 and the IBC Code	ex II of Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	0
 Transport category Tunnel restriction code 	2
	B/D
UN "Model Regulation":	UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

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15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture · United States (USA) · SARA Section 355 (extremely hazardous substances): None of the ingredients is listed. Section 313 (Specific toxic chemical listings): None of the ingredients is listed. · TSCA (Toxic Substances Control Act): All ingredients are listed. · Proposition 65 (California): Note: There are no Proposition 65 substances listed in this chemical formulation. However, the metal container may contain trace amounts (less than 0.1% by weight) of lead, a substance known to the State of California to cause reproductive toxicity (males and females), developmental toxicity, and/or cancer. Increased risk of lead toxicity is not anticipated with normal use of this product. Notes below reference the chemical formulation only. · Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. · Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic Categories • EPA (Environmental Protection Agency) None of the ingredients is listed. · IARC (International Agency for Research on Cancer) None of the ingredients is listed. • TLV (Threshold Limit Value established by ACGIH) None of the ingredients is listed. · NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients is listed. OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients is listed. · Canada · Canadian Domestic Substances List (DSL) All ingredients are listed. (Contd. on page 10)

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· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

106-97-8 butane

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

R12 Extremely flammable.

 Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association GHS: Globally Harmonized System of Classification and Labelling of Chemicals ACGIH: American Conference of Governmental Industrial Hygienists NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) Sources SDS Prepared by: ChemTel Inc. 1305 North Florida Avenue Tampa, Florida USA 33602-2902 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573 Website: www.chemtelinc.com