

**SAFETY DATA SHEET**

May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.

**LIGHTER****Section 1. PRODUCT AND COMPANY IDENTIFICATION**

**GHS Product Identifier:** Lighter  
**Model No.:** SK-40  
**Product Type:** Compressed Gas  
**Recommended Use:** Create flame to light gas appliances, candles, fire logs, charcoal, camp and fireplace fires, chafing fuel, torches, lanterns and similar items.  
**Supplier:** Beacon Power, Inc.  
**Address:** 5690 Bandini Blvd., Bell, CA 90201, USA  
**General Telephone No.:** 323-261-7290 or 323-261-7293  
**Transportation Emergency Telephone No.:** PERS: 800-633-8253

**Section 2. HAZARDS IDENTIFICATION**

**OSHA/HCS Status:** This material is considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Classification:** Flammable Gas, Hazard Class 2.1

**GHS Label Elements:****Hazard Pictograms**

**Signal Word:** Danger  
**Hazard Statements:** Extremely flammable.  
Contents under pressure.  
Keep out of reach of children.

**Precautionary Statements:** Point nozzle away from face, hands and clothing.  
Contains flammable gas under pressure.  
Do not use near sparks or open flame.  
Never puncture or put in fire.  
Never expose to heat above 122°F (50°C) or to prolonged sunlight.  
Be sure flame is completely out after each use.  
Do not use to light cigarettes, cigars or pipes.  
Follow all instructions and warnings provided by manufacturer of appliance, grill, outdoor stove, lantern, candle, torch, charcoal, lighter fluid or any other item when using this product.  
Do not keep lit for more than 30 seconds.  
Extreme heat is present above the visible flame. Extra care should be taken to prevent burns, injury or fire.  
Metal nozzle tip can get very hot. Do not touch during or immediately after use.

**Disposal:** Disposal must be in compliance with requirements of State and Federal hazmat and waste disposal regulations.

**Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS Number	%
Butane (n-Butane)	106-97-8	92
Propane (n-Propane, Propyl Hydride)	74-98-6	8

(See Section 8 for Exposure Limits.)

#### Section 4. FIRST AID MEASURES

<b>Inhalation:</b>	Causes displacement of oxygen in respiratory system. Move exposed person to fresh air. For respiratory distress give air, oxygen and administer cardio-pulmonary resuscitation as needed.
<b>Skin Contact:</b>	May cause irritation to skin. Flush off immediately with water. Frozen skin should be flooded with warm water (105-115°F). Clothing frozen to skin should be thawed before removal. Seek medical attention if irritation persists.
<b>Eye Contact:</b>	May cause burns or irritation to eye. Remove contact lenses and immediately flush with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Seek medical attention immediately.
<b>Ingestion:</b>	Ingestion is considered unlikely. If accidentally swallowed obtain immediate medical attention.

#### Section 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	Use carbon dioxide, dry powder or water spray to extinguish fire.
<b>Fire Fighting Procedures:</b>	Confine fire to immediate area. Disperse liquid or vapor if leaks occur.
<b>Unusual Fire and Explosion Hazards:</b>	Will form explosive mixtures in air. Vapors from liquified gas initially heavier than air and will spread along ground. Vapors may travel back to ignition source and flash back.
<b>Protective Equipment:</b>	For large fires in confined areas, use self-contained breathing apparatus. Do not inhale combustion or erupted gases.

#### Section 6. ACCIDENTAL RELEASE MEASURES

Keep unnecessary people away; isolate hazard and deny entry.  
Stay upwind; keep out of low areas (also see Section 8).  
Remove all ignition sources.  
Ventilate area of leak to disperse the gas.  
All equipment used in handling the release must be grounded.  
For high gas concentrations use NIOSH/MSHA approved SCBA.

#### Section 7. HANDLING AND STORAGE

<b>Handling:</b>	Keep away from heat, sparks and flame. Also keep away from food, drink and animal feed.
<b>Storage:</b>	Store in a cool, dry place with adequate cross-ventilation. Do not store in temperatures exceeding 122°F (50°C) or expose to direct sunlight. Do not store with strong acids (e.g. hydrochloric acid, sulfuric acid), strong bases (e.g. sodium hydroxide, potassium hydroxide), oxidizing agents (e.g. perchlorates, peroxides, permanganates, chlorates, chlorine, fluorine, bromine), copper and mixtures of nickel carbonyl and oxygen.

#### Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Exposure Limits:</b>	<b>Component, Butane (n-Butane) - 800 PPM (ACGIH TLV, NIOSH)</b> <b>Component, Propane (n-Propane, Propyl Hydride) - 1000 PPM (ACGIH TLV, NIOSH, OSHA PEL)</b>
<b>Engineering Controls:</b>	Ensure adequate ventilation of working area. Use only intrinsically safe electrical equipment approved for use in classified areas.
<b>Personal Protective Equipment:</b>	None under normal conditions. In the event of an accidental release, firefighters and emergency personnel should wear positive pressure self-contained breathing apparatus (SCBA) (NIOSH/MHSA approved) for high concentrations. Personnel handling accidental releases or leaks should wear rubber gloves and ANSI approved chemical worker goggles.

#### Section 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Liquified gas under pressure. Clear, odorless.
<b>pH:</b>	Not applicable.
<b>Melting Point/Freezing Point:</b>	-305°F (-187°C)
<b>Initial Boiling Point and Range:</b>	31.1°F (-0.5°C) at 1,013.25 hPa
<b>Flash Point:</b>	<-76°F (<-60°C), Method ASTM D92
<b>Evaporation Rate:</b>	High
<b>Flammability (solid, gas):</b>	Gas
<b>Lower Flammability Limit:</b>	1.8% (V)
<b>Upper Flammability Limit:</b>	8.5% (V)
<b>Vapor Pressure:</b>	2,399.8 hPa at 68°F (20°C)
<b>Vapor Density:</b>	2.007 at 70°F (21.1°C), (Air = 1.0)
<b>Relative Density:</b>	0.56 at 59°F (15°C)
<b>Solubility in Water:</b>	17 cc per 1000 cc of Water @ 170.6°F (77°C)
<b>Partition Coefficient (Octanol/Water):</b>	Not Available
<b>Auto Ignition Temperature:</b>	549°F (287°C)
<b>Decomposition Temperature:</b>	Heating may cause a fire or explosion. Material does not decompose at ambient temperatures. Carbon monoxide and non-combusted hydrocarbons (smoke) are possible hazardous decomposition products.

#### Section 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	Can react with strong acids, strong oxidizers and copper. Explosion hazard when exposed to carbonyl/oxygen mixture.
<b>Conditions to Avoid:</b>	Keep away from flame, sparks, excessive temperatures and open flame.
<b>Incompatible Materials:</b>	Can react with strong acids, strong oxidizers and copper.
<b>Reactivity and Hazardous</b>	Decomposition Products: Vapors may form an explosive mixture with air. Hazardous polymerization does not occur.

#### Section 11. TOXICOLOGICAL INFORMATION

<b>Inhalation:</b>	May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Simple asphyxiant: acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Exposure to high concentrations may cause cardiac sensitization.
<b>Ingestion:</b>	Considered unlikely.
<b>Skin and Eye Contact:</b>	Rapid release of liquified gases under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling.
<b>Further Information:</b>	Chronic Effects and/or Target Organ Data - May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Simple asphyxiant: acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at normal atmospheric percentage (about 21% by volume).

<b>Components:</b>	<b>Butane</b> CAS No. 106-97-8	<u>Skin Irritation:</u> Classification - Irritating to skin.
	<b>Propane</b> CAS No. 74-98-6	Result - Skin irritation.
		<u>Eye Irritation:</u> Classification - Irritating to eyes. Result - Mild eye irritation.
	<b>NTP</b>	No component of this product which is present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	<b>IARC</b>	No component of this product which is present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
	<b>OSHA</b>	No component of this product which is present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.






### Section 12. ECOLOGICAL INFORMATION

<b>Bioaccumulation:</b>	Accumulation in aquatic organisms is unlikely.
<b>Toxicity to Fish:</b>	Not expected to be harmful to aquatic organisms.
<b>Additional Ecological Information:</b>	Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.

### Section 13. DISPOSAL CONSIDERATIONS

<b>Disposal:</b>	Discharge remaining fuel from lighters at a moderate rate in well ventilated area without ignition sources. Dispose of empty lighters in accordance with state, local and federal requirements.
------------------	---

### Section 14. TRANSPORT INFORMATION

<b>CFR:</b>	Proper Shipping Name -	Lighters	
	UN No. -	1057	
	Class -	2.1	
	Packing Group -	None	
<b>DOT/TDG:</b>	Proper Shipping Name -	Lighters	
	UN No. -	1057	
	Class -	2.1	
	Packing Group -	None	
<b>IATA Cargo Transport:</b>	UN No. -	1057	
	Description of the Goods -	Lighters	
	Class -	2.1	
	ICAO - Labels -	2.1	
<b>IATA Passenger Transport:</b>	UN No. -	1057	
	Description of the Goods -	Lighters	
	Class -	2.1	
	ICAO - Labels -	2.1	
<b>IMDG:</b>	UN No. -	1057	
	Description of the Goods -	Lighters	
	Class -	2.1	
	IMDG - Labels -	2.1	
	EmS Number -	F-D S-U	

**Sectoin 15. REGULATORY INFORMATION**

<b>Consumer Safety:</b>	See ASTM F400-10, ASTM F2201-10, ISO 9994, ISO 22702, in addition to various national and regional laws, regulations and standards, such as the the Lighters Regulations of the Hazardous Products Act of Canada, CEN, EU, etc.		
<b>Child Safety:</b>	See 16 CFR Parts 1210 and 1212, in addition to various national and regional laws, regulations and standards, such as the Lighters Regulations of the Hazardous Products Act of Canada, CEN, EU, etc.		
<b>CERCLA Section 103 and SARA Section 304 (Release to the Environment):</b>	The CERCLA definition of hazardous substances contains a "petroleum exclusion" which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act, may apply.		
<b>TSCA Status:</b>	Butane and Propane are on the TSCA inventory.		
<b>DSL Status:</b>	Butane and Propane are on the Canadian DSL list.		
<b>SARA 311/312 Hazards:</b>	Fire Hazard Acute Health Hazard		
<b>PENN RTK (Pennsylvania Worker and Community Right-to-Know Law):</b>	Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6
<b>MASS RTK (Massachusetts Commonwealth Right-to-Know Law):</b>	Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6
<b>NJ RTK (New Jersey Worker and Community Right-to-Know Act):</b>	Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6
<b>California Proposition 65:</b>	This product does not contain any chemicals known to the State of California to cause cancer, birth or any other reproductive defects.		

**Section 16. OTHER INFORMATION****National Fire Protection Association (NFPA) Ratings:**

**Health - 1**  
**Flammability - 4**  
**Reactivity - 0**

This information is intended solely for the use of individuals trained in the NFPA system.

**Further Information:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific material components designated and may not be valid for such components

used in combination with any other materials or in any process, unless specified in the text.

**Revision Date:**

2/2/2016