1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	: Cordless Fuel Cell
MODEL NO	: GN9043
CHEMICAL FAMILY	: Hydrocarbons
CHEMICAL NAME	: Compressed, extremely flammable, liquefied gas
MANUFACTURER	: Superior Power Tool Co., Ltd. No.181, Renhuagong 3rd Rd., Renhuagong Industry Park, Dali Dist., Taichung City 41278, Taiwan Tel : +886-4-2491 8488
EMERGENCY CONTACT NO	: 886-4-241 8488 (Superior Power Tool) 886-6-2937770 (GHS Technical Support)

2. COMPOSITION / INFORMATION ON INGREDIENTS (fuel and propellant)

Chemical Names	CAS Numbers	Weight
Propylene	74-98-6	10% ± 10%
Butane	106-97-8	45% ± 5%
Isobutane	75-28-5	45% ± 5%

3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW

Colorless, highly flammable gas with a light petroleum smell. Dangerous fire and explosion hazard. Avoid heat, sparks, and flames. Direct contact may cause frostbite (cold burn). Simple Asphyxiant product may displace oxygen content in the air causing asphyxiation if released in a confined area. High concentrations may have an anesthetic effect. May react with oxidizers. Contents under pressure.

POTENTIAL HEALTH EFFECTS

ACUTE

Eye Contact :	May cause momentary freezing followed by swelling and eye damage.
Skin Contact :	May cause frostbite (cold burn). This material is a gas under normal atmospheric conditions. No harmful effects from skin absorption are expected.
Ingestion :	This material is a gas under normal atmospheric conditions. Ingestion is unlikely.
Inhalation :	Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing.

4. FIRST AID MEASURES

Eye Contact :	Immediately flush eves with plenty of water for at least 15min while holding the eyes open. **CONSULT A PHYSICIAN.**
Skin :	Treat burned or frostbitten skin by washing or immersing the affected area(s) in water. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. **CONSULT A PHYSICIAN.**
Ingestion :	Get immediate medical attention.
Inhalation :	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **CONSULT A PHYSICIAN.**

5. FIRE FIGHTING MEASURES

General Fire Hazards :	This material is flammable and can be ignited by heat, spark, 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.
Flammability Limits :	Approximately 2 to 10. (% in air by volume)
Suitable Extinguishing Media :	Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
Special Fire Fighting Procedures:	Fuel cells may release contents if not sufficiently cooled with water spray. Isolate hazard area and evacuate unprotected personnel. Full emergency equipment with self contained breathing apparatus and full protective clothing should be worn by firefighters.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
Containment Procedures:	Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended.
Clean-up Methods:	Stay upwind and away from spill/release. Notify person 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 including respiratory protection as conditions warrant. Water spray may be useful in minimizing or dispersing vapors.
Additional Information:	Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with GHS (Globally Harmonized System , Council of Labor Affairs

7. HANDLING AND STORAGE

Storage :	Below 120°F. Ground all equipment containing material.
Handing (Personnel) :	When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing vapor or spray mists. Handle in a well-ventilated work area.
Handling and Storage Precautions :	In addition to limitations on storage temperature, fuel cells should be handled and stored so as to avoid puncture. Even when the fuel cell is empty, the can still contains flammable gas. Do not puncture fuel cell or expose fuel cell to high temperature. Do not attempt to refill the fuel cell. The use of explosion-proof electrical equipment is recommended and may be required.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Protective Measure:	Wear appropriate personal protective equipment.
Respirator Protection:	In case of brief exposure or low concentration, use respiratory filter device. In case of intensive or longer exposure, use self-contained respiratory protective device.
Hand Protection:	Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Eye Protection:	Avoid contact with eyes. Wear chemical splash goggles or safety glasses with side shield.
Skin and Body Protection:	Wear chemical-resistant gloves and other clothing as required minimizing contact.

Exposure Limits:

Chemical names	ACGIH (TWA)	OSHA
Propane	500 ppm	NE
Butane	1000 ppm	800ppm ; 1900mg/m3
Isobutane	2000 ppm	NE

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form :	Liquefied Gas
Color :	Colorless
Odor :	Slight Petroleum Smell
Boiling Point :	-17℃
Melt Point :	-102.8℃
Upper Flammable Limit:	9.5%
Lower Flammable Limit:	2.1%
Specific Gravity : kg/liter , 15℃	0.49 - 0.58
Vapor Pressure : 50℃,kg/cm² abs	11.8kg/cm^2
Vapor Density : air = 1	1.5496
Solubility In Water :	Slightly
Flash Point :	-74℃
Burning Point :	287℃

10. REACTIVITY

Stability :	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Hazardous Polymerization:	Polymerization will not occur.
Conditions To Avoid :	Avoid all possible sources of ignition.
Materials To Avoid :	Avoid contact with nitrogen dioxide, nitrogen tetroxide , nitrous oxide, lithium nitrate, sodium dioxide, and trifluoromethyl hypofluorite and other strong oxidizing agents
Decomposition Products:	Combustion may produce carbon monoxide, carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Item	Propane	Butane	Isobutane
Acute Oral (LD_{50})	NE	NE	NE
Acute Oral (LC_{50})	NE	658000 mg/m3/4H (Rat，suck in)	NE
Acute	**Inhalation**: simple asphyxiants. Exposure to high concentrations of propylene has been associated with irregular heartbeat. **Eye or skin contact**: Frostbite ("cold burn") can result from exposure to expanding gas or vaporizing liquid. Components of fuel cell gas and propellant at ambient pressure and temperature produce little or no irritation.		
Chronic	**Inhalation**: No significant effects have been demonstrated for any components. **Eye or skin contact**: No significant effects have been demonstrated for components of fuel cell gas and propellant at ambient pressure and temperature.		
Carcinogenicity:	No components of fuel cell gas or propellant are classified as carcinogens by IARC, NTP, or OSHA.		

12. ECOLOGICAL INFORMATION

Component Analysis Aquatic Toxicity	There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.
Environmental Fate :	Volatilization is expected to be primary fate process. Components of fuel cell gas and propellant have photochemical reactivity.
Other adverse effects :	No information available for the product.

13. DISPOSAL CONSIDERATIONS

Waste disposal method	Do not crush, puncture, or incinerate spent containers. Large numbers of aerosol containers may require handling as a hazardous waste. Dispose of container and unused contents in accordance with GHS (Globally Harmonized System , Council of Labor Affairs ** Even when used up the fuel cell still contains flammable gas. Do not puncture the can or incinerate.

14. TRANSPORT INFORMATION

UN Number :	1950
Proper Shipping Name :	Aerosols, flammable
ICAO/ IATA Class :	2.1
IATA Class :	2.1
IMDG Class :	2.1
Hazard class :	ORM-D
Class No :	2.1
Packing Group :	III
Label :	None

15. REGULATORY INFORMATION

Propane (CAS: 74-98-6)/ Butane (CAS: 106-97-8)/ iso-butane (CAS: 75-28-5) are found on the following regulatory lists;

GHS (Globally Harmonized System , Council of Labor Affairs

IOSH (Institute of Occupation Safe & Health) , “Labor Safety and Health Law “

IOSH , “Dangerous chemical material symbol

Environmental Protection Administration Executive Yuan ,

Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste

National Fire Agency ,Ministry of the Interior,

Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations

Above data is for EZ-Fasten Gas Nail Gun Fuel Cell (Nailer Gas-80ml, 40g).

16. OTHER INFORMATION

Reference Form :	1.RTECS Database，TOMES CPS CD，Vol.71，2007 2. ChemWatch Database，2007-1 3. OHS MSDS Database，2007 4. HSDB Database，TOMES CPS CD，Vol.71，2007
Make Unit :	Superior Power Tool Co., Ltd.
Made by :	Arthur Ho
Issue Date :	4- Nov-2009

This Material Safety Data Sheet (MSDS) is prepared by Superior Power Tool Co., Ltd.

No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

This is the end of the MSDS.