Safety Data Sheet (SDS)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name: PRINCE GB-2001 BOMBE NET 130g

Company Name: Fukashiro Corporation Address: 1-2-1 Kuramae,Taitou-ku, Tokyo
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2. Hazards Identification

GHS Classification

Physicochemical hazards	
- Flammable and combustible gas	Class 1
Health hazards	
- Acute (oral) toxicity	Outside scope of classification
- Acute (percutaneous) toxicity	Outside scope of classification
- Acute toxicity (inhalation: Gas)	Outside classification
- Acute toxicity (inhalation: Vapor)	Outside scope of classification
- Acute toxicity (inhalation: dust and mist)	Outside scope of classification
- Skin corrosion and irritation	Cannot classify
- Critical injury and irritability to eyes	Cannot classify
- Respiratory sensitization	Cannot classify
- Skin sensitization	Cannot classify
- Germ-cell mutagenicity	Cannot classify
- Carcinogenicity	Cannot classify
- Reproductive toxicity	Cannot classify
- Specific target organ toxicity (single exposure)	Class 2 (heart) Class 3 (anesthetic actions)
- Specific target organ toxicity (repeated exposure)	Cannot classify
- Aspiration respiratory hazards	Outside scope of classification
Environmental hazards	
Aquatic environment toxicity (acute)	Outside classification
Aquatic environment toxicity (long-term)	Outside classification
Harmfulness to ozone layer	Cannot classify

GHS Label Elements

Symbols:

Cautionary Terms

Danger

Label display substances: Isobutane, normal butane, etc.

Hazard Statements

- Extremely flammable or highly combustible gas
- High-pressure container - Risk of rupture when heated
- Risk of organ (heart) failure
- Risk of irritation to respiratory organs
- (Anesthetic actions) Risk of drowsiness or dizziness

Precautionary Statements

<Safety measures>

Keep away from heat, sparks, naked flames, high temperatures, and other ignition sources. - No smoking
Don't spray on naked flames or other ignitions sources.
Don't bore holes or burn even after use.
Use only outdoors or in a well-ventilated area.
Avoid inhaling dust, smoke, gas, mist, vapor, or sprays.
If there is a leaking gas fire: Don't extinguish unless the leak is completely stopped.
Eliminate the source of the fire if it is safe to do so.

<Emergency measures>

If inhaled: Move to a location with fresh air, and make sure they rest in a pose that facilitates respiration.
If you feel unwell, consult a physician or receive medical treatment.

<Storage (Preservation)>

Store in a well-ventilated location. Securely seal the containers.
Lock the storage location.

<Disposal>

Dispose of contents and containers according to the rules and regulations of the international community, country, prefecture, and city, town, or village.

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3. Composition/Information on Ingredients

Chemical substance and mixture classification: Mixture

Ingredients information and amounts:

Chemical Name		Chemical Formula or Structural Formula	Reference Number in Gazetted List in Japan - Chemical Substance Control Law	CAS No.	Substances Requiring Notification in the Industrial Safety and Health Act	Substance Reportable in the PRTR Law	Components (mass%)
Propane		C_3H_8	2-3	74-98-6	N/A	N/A	20 to 30
Butane	Isobutane	C_4H_{10}	2-4	75-28-5	Applicable	N/A	70 to 80
	Normal butane		2-4	106-97-8	Applicable	N/A	
Other ingredients		-	-	-	N/A	N/A	Less than 0.1%

4. First-Aid Measures

Inhalation: If you feel unwell after inhaling vapors, move to a location with fresh air, and rest in a pose that makes breathing easy, or if you still feel unwell, consult a physician or receive medical treatment.

Skin contact: Treat as for frostbite, and consult a physician or seek further medical treatment.

Eyes contact: Promptly wash for 15 minutes min. using copious amounts of clean running water. Consult an ophthalmologist as quickly as possible.

Ingestion: If ingested by mistake, remain calm, and consult a physician or seek medical treatment.

5. Fire-Fighting Measures

Extinguishing agents: Carbon gas, powdered fire extinguishing agents

Characteristic dangers: There is a risk of rupturing easily.
There is a risk of the container exploding when heated.
Implement fire-fighting activities from a sufficiently safe distance.

Extinguishants that must not be used: Straight streams

Fire-fighting method: Use powder and carbon gas during the initial fire.
Cut the gas supply.
Ambient cooling: Apply water to cool product containers exposed to high temperatures.
Using direct streams may enlarge the fire and can be dangerous.
Move containers in the vicinity of the fire to a safe location.
For major fires, cut off the air using foam fire extinguishing agents.

Protection of fire-fighters: When fire-fighting, wear heat-resistant clothing, and suitable protective equipment such as rebreathers, etc.

6. Accidental Release Measures

Personal precautions: Airborne fire sources may explode, so don't approach unless safety can be assured.
If the leaked liquid gas vaporizes, its volume will increase by approx. x250, and it will lower the oxygen concentration in the air, so make sure that there is thorough ventilation to prevent oxygen deficiency.
Keep away from low-lying areas.
When working, wear suitable protective equipment (gloves, protective mask, apron, goggles, etc.), and take care to prevent adhesion to skin and vapor inhalation.

Environmental precautions: Promptly remove nearby flame sources, high-temperature bodies, and flammable materials.

Cleanup methods: Prepare suitable fire extinguishers in case of fire.
Make sure that the sparks are not launched by shocks or static electricity.
Process any adhesions or waste according to the relevant laws.
Stop the leak if possible.

7. Handling and Storage

This is a dangerous flammable product that uses high-pressure gas, so observe the following precautions.

Handling: Beware of fires and high temperatures.

There is a risk of rupturing at high temperatures, so don't place in direct sunlight, close to naked flames, or where the temperature exceeds 40ºC.
Don't place in fires.
Don't replenish the gas.
Make sure to handle in a well-ventilated location.
Cap or seal containers as appropriate when not in use.
Ensure good ventilation so that the vapors do not accumulate.
Risk of inhalation: Deliberately inhaling the gas may cause death by suffocation due to oxygen deficiency.
If the container is rusty, check that no gas is leaking, and then use the contents as soon as possible.
Don't store in locations with temperatures over 40ºC.
Don't heat to 40ºC or greater.

Storage

Cap and store the containers in locations with low humidity and temperatures lower than 40ºC.
Don't place the containers on shelves or other locations where toppling may occur easily.
After use, remove from the equipment and store.
There is a risk of rupturing at high temperatures, so don't place in direct sunlight, close to naked flames, or where the temperature exceeds 40ºC.
Avoid direct sunlight, humidity, and freezing, and store in a well-ventilated location.
Always place the container with the lid (cap) on top, and determine a fixed location for storing used containers.
Lock the storage location.
Store out of the reach of children.

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8. Exposure Controls/Personal Protection

Ingredients		Control Concentration (ppm)	Tolerance Concentration (ppm)	
			Japan Society for Occupational Health	ACGIH
LP gas	Propane	Not Set	1,000	1,800 (mg/m^3)
	Isobutane	Not Set	500	1000
	Normal butane	Not Set	1,000	1,800 (mg/m^3)

Equipment measures: If using indoors, make sure that the location is well-ventilated.
Protective equipments: -

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9. Physical and Chemical Properties

	Propane	Isobutane	Normal butane
Appearance:	Colorless gas	Colorless gas	Colorless gas
Density:	0.50	0.6	0.6
Vapor specific gravity:	1.60	2.00	2.10
Vapor pressure:	0.744MPa (20ºC)	0.34MPa (20ºC)	0.21MPa (20ºC)
Boiling point:	-42ºC	-11.7ºC	-0.5ºC
Melting point::	-189.7ºC	-159.4ºC	-138ºC
Flash point:	-104ºC	<-56ºC	-60ºC
Combustion point:	450ºC	460ºC	365ºC
Explosion limit:	2.1 to 9.5 vol%	1.8 to 8.4 vol%	1.8 to 8.4 vol%
Solubility:	Insoluble in water	Insoluble in water	Insoluble in water

10. Stability and Reactivity

Stability and reactivity: Stable with regular handling.

Emission of noxious gasses due to fire, etc.: There is a risk of toxic gasses such as CO and NOx, etc., being emitted.

Hazardous Polymerizations: Reacts violently with oxidizers

Conditions to be avoided: If there is a source of flames within the burning (explosion limit) range, fire and explosion will occur, so avoid such conditions.

Contact with Hazardous Substances: Strong oxidants

11. Toxicological Information

11-1 Health Hazard Information of the Ingredients (Targeting Hazardous Materials) (Acute Toxicity)

Ingredients	Acute Toxicity				
	Oral mg/kg	Percutaneous mg/kg	Gas ppm	Vapor ppm	Dust and Mist mg/l
Propane	Outside scope of classification	Outside scope of classification	Outside classification 38,890	Outside scope of classification	Outside scope of classification
Isobutane	Cannot classify	Cannot classify	Class 4 11,000	Outside scope of classification	Outside scope of classification
Normal butane	Outside scope of classification	Outside scope of classification	Outside classification 277,274	Outside scope of classification	Outside scope of classification

11-2 Health Hazard Information of the Ingredients (Targeting Hazardous Materials) (Skin Corrosion to Germ-Cell Mutagenicity)

Ingredients	Skin Corrosion/Irritation	Critical Injury to Eyes/Eye Irritation	Respiratory Sensitization/Skin Sensitization	Germ-Cell Mutagenicity
Propane	Outside classification	Cannot classify	Respiratory sensitization: Cannot classify Skin sensitization: Cannot classify	Cannot classify

Isobutane	Outside classification	Outside classification	Respiratory sensitization: Outside scope of classification Skin sensitization: Cannot classify	Cannot classify
Normal butane	Cannot classify	Cannot classify	Respiratory sensitization: Cannot classify Skin sensitization: Cannot classify	Cannot classify

11-3 Health Hazard Information of the Ingredients (Targeting Hazardous Materials) (Carcinogenicity to Germ-Cell Mutagenicity)

Ingredients	Carcinogenicity	Reproductive Toxicity	Specific Target Organ Toxicity (Single Exposure)	Specific Target Organ Toxicity (Repeated Exposure)	Aspiration Respiratory Hazards
Propane	Cannot classify	Cannot classify	Class 3 (anesthetic actions)	Cannot classify	Outside scope of classification
Isobutane	Cannot classify	Cannot classify	Class 2 (heart) Class 3 (anesthetic actions)	Cannot classify	Outside scope of classification
Normal butane	Cannot classify	Cannot classify	Class 3 (anesthetic actions)	Cannot classify	Outside scope of classification

12. Ecological Information

General Precautions

During leaks or disposal, there is a risk of environmental impact, so handle with care.

Ecotoxicity

No information

Persistence and degradability

No information

Bioaccumulability

No information

Mobility in soil

No information

12-1 Aquatic Environment Hazard Information of the Ingredients (Targeting Environmental Hazardous Materials)

Ingredients	Aquatic Environment Toxicity (Acute)	Aquatic Environment Toxicity (Long-Term)	Harmfulness to Ozone Layer
Propane	Cannot classify	Cannot classify	Cannot classify
Isobutane	Cannot classify	Cannot classify	Cannot classify
Normal butane	Cannot classify	Cannot classify	Cannot classify

13. Disposal Considerations

Dirty Containers and Packaging

- Make sure that the contents have been all used up and there are none left before disposal, and during disposal, also be careful not to inhale any gas or mist, and avoid adhesion.
  Separate from all other garbage before disposal. *There is a risk of fire, etc., in the garbage truck.

- Don't incinerate.
- Entrust disposal of containers and contents to a special waste disposer who is licensed by the prefectural governor.

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14. Transport information

International Regulations

UN classification: Class 2.1 (Flammable high-pressure gas)

UN No.: 2037

Compact gas cylinders (Limited to cylinders with no mechanism for releasing the gas and that cannot be refilled)

Product name: PRINCE GB-2001 BOMBE 130g

Container class: -

Marine regulation information: Obey IMO regulations.

Aviation regulation information: Obey IATA/ICAO regulations.

Japanese Regulations

Land regulation information: Obey the Fire Services Act, Industrial Safety and Health Law, and other transport laws.

Marine regulation information: Obey the Ship Safety Law.

Aviation regulation information: Obey the Civil Aeronautics Act.

Precautions

Follow general precautions in "Handling and Storage."

Check that the containers are not leaking, and then take thorough measures to make sure that the containers are not damaged by falling or toppling due to loads being shed during transport.

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15. Regulatory Information

High Pressure Gas Safety Law: Exclusion from application (Liquid gasses, flammable gasses)

Fire Services Act: Article 9.3 of the Fire Services Act

Designated substance in Article 1.10 of the Ordinance on the Regulation of Dangerous Materials

Liquefied petroleum gas 300kg min.

(Cannot be classified as "Substances listed in the product name field of the appended table, which have the properties listed in the characteristics field of the table according to its classification specified in the table" in Article 2.7 of the Fire Services Act.)

Industrial Safety and Health Law: Hazardous Materials (Flammable Gas) in Article 1 of the enforcement ordinance

640 substances listed in Appended Table 9 of the enforcement ordinance of the Industrial Safety and Health Law: (Butane)

Other harmful substances: (Propane)

Ordinance on Prevention of Organic Solvent Poisoning: N/A

Ordinance on Prevention of Hazards Due to Specified Chemical Substances: -

Poisonous and Deleterious Substances Control Law: -

Pollutant Release and Transfer Register Law (PRTR Law): N/A

Ship Safety Law: High-pressure gas

Civil Aeronautics Act: High-pressure gas

1st to 13rd SVHC (155 substances of high Concern): N/A

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16. Other Information

Handling Details:

- The information described herein collates the latest component and ingredients information for the product known at the time of creation and revision. Nevertheless, information on the raw materials, etc., was acquired from sources outside the company, and so not all information is covered. Although thought to be accurate at the current time, the contents are subject to change upon receipt of new information.
- The evaluation of danger and hazard is typical, and its accuracy and safety cannot be assured, so when using the product, use as reference data to ensure suitable handling.
- Further, the use conditions of all customers are not managed by our company, so take thorough precautions when handling.

Bibliography:

- GHS-Equivalent SDS Label Creation Guidebook Ver. 2; Japan Chemical Industry Association (JCIA)
- Raw materials manufacturer material safety datasheets and safety data sheets (MSDS/SDS)
- Handbook of Laws and Regulations Regarding Chemicals, etc. The Chemical Daily
- Hazard communication of chemicals based on GHS-Labelling and Safety Data Sheet (SDS); JIS Z 7153 (2012)
- Classification of chemical based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS); JIS Z 7252 (2014)
- Industrial Safety and Health Law Summary (2016); Japan Industrial Safety and Health Association