BUTANE GAS CARTRIDGE

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 12/11/2017 Revision date: 12/11/2017 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

: BUTANE GAS CARTRIDGE

Product code : BU-5/BU-6

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

For use Only in Portable Gas Appliances

1.3. Details of the supplier of the safety data sheet

Manufacturer
Iwatani Corporation of America
2200 POST OAK BLVD. STE 1150
HOUSTON, TX 77056 - USA
T 713-965-9970
F 713-963-8497

Distributor

1.4. Emergency telephone number

Emergency number : CHEMTREC (800) 424-9300

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Flam. Gas 1
Press. Gas (Liq.)

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :

GHS02 GHS04

Signal word (GHS) : Danger

Hazard statements (GHS) : Extremely flammable gas. Contains gas under pressure; may explode if heated.

Precautionary statements (GHS) : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Butane	(CAS-No.) 106-97-8	50 - 70
Isobutane	(CAS-No.) 75-28-5	25 - 35
Propane	(CAS-No.) 74-98-6	0 - 5

The concentrations listed represent actual ranges that result from batch variability.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray or fog. Alcohol foam. Carbon dioxide. Dry sand or soil.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable gas. Products of combustion may include, and are not limited to: oxides of carbon. Toxic vapours.

Explosion hazard : Contains gas under pressure; may explode if heated.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Eliminate every possible source of ignition.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Wear recommended personal protective equipment.

Methods for cleaning up : Allow gas to dissipate harmlessly into the atmosphere. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Risk of suffocation due to oxygen deficiency in confined areas. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Keep away from sources of ignition - No smoking. Pressurized container: Do not pierce or burn, even after use. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Do not reuse container.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Store away from direct sunlight or other heat sources. Store in a dry, cool and well-ventilated place. Store under 40°C/104°F. Keep away from food and drink. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Butane (106-97-8)		
ACGIH	ACGIH STEL (ppm)	1000 ppm (explosion hazard)
IDLH	US IDLH (ppm)	1600 ppm (>10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m³)	1900 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	800 ppm

Isobutane (75-28-5)		
ACGIH	ACGIH STEL (ppm)	1000 ppm (explosion hazard)
NIOSH	NIOSH REL (TWA) (mg/m³)	1900 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	800 ppm

Propane (74-98-6)		
ACGIH	Remark (ACGIH)	Simple Asphyxiant
OSHA	OSHA PEL (TWA) (mg/m³)	1800 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
IDLH	US IDLH (ppm)	2100 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m³)	1800 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Hand protection : Wear suitable gloves.

Eye protection : Safety glasses or goggles are recommended when using product.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Avoid release to the environment.

Other information : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Liquid & vapour
Colour	:	Colourless
Odour	:	faint
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	-138°C (n-butane); -160°C (Iso-butane); -187°C (Propane)
Freezing point	:	No data available
Boiling point	:	-1 °C/30 °F (n-Butane); -12 °C/10 °F (Iso-Butane); -42 °C/ -44 °F (Propane)
Flash point	:	-60 °C/-76 °F (n-Butane); -88 °C/-126 °F (Iso-Butane); -104°C/-155 °F (Propane)
Upper/Lower Flammability	:	1.8-8.4 vol% (n-Butane); 1.8-8.4 vol% (Iso-Butane); 2.2-9.5 vol% (Propane)
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Extremely flammable gas.
Vapour pressure	:	1557 mmHg (n-Butane); 2280 mmHg (Iso-Butane); 5625 mmHg (Propane)
Relative vapour density at 20 °C	:	0.578 (20°C/4°C Liquid) (n-Butane); 0.578 (20°C/4°C Liquid) (Iso-Butane); 0.501 (20°C/4°C Liquid) (Propane)
Relative density	:	No data available
Solubility	:	3.25mL/100mL(at 20℃/ 68°F) (n-Butane); 0.007g/100mL (at 20℃/ 68°F) (Propane)
Partition coefficient n-octanol/water	:	2.89 (n-Butane); 2.80 (Iso-Butane); 2.36 (Propane)
Auto-ignition temperature	:	287 °C (n-Butane); 460 °C (Iso-Butane); 466 °C (Propane)
Decomposition temperature	:	No data available
Partition coefficient n-octanol/water	:	2.89 (n-Butane); 2.80 (Iso-Butane); 2.36 (Propane)
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. Extremely flammable gas. Contains gas under pressure; may explode if heated.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sources of ignition. Direct sunlight. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents such as hydrogen peroxide,nitric acid,sulphuric acid, etc.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Toxic vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified.
Acute toxicity (dermal)	:	Not classified.
Acute toxicity (inhalation)	:	Not classified.

Butane (106-97-8)	
LC50 inhalation rat	658 g/m³ (Exposure time: 4 h)

Isobutane (75-28-5)	
LC50 inhalation rat	658 mg/l/4h

Propane (74-98-6)	
LC50 inhalation rat	> 800000 ppm (Exposure time: 15 min)

Skin corrosion/irritation : Not classified.

Serious eye damage/irritation : Not classified.

Respiratory or skin sensitisation : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive toxicity : Not classified.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

Aspiration hazard : Not classified.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

BUTANE GAS CARTRIDGE	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

BUTANE GAS CARTRIDGE	
Bioaccumulative potential	Not established.

Butane (106-97-8)	
Partition coefficient n-octanol/water	2.89

Isobutane (75-28-5)	
BCF fish 1	1.57 - 1.97
Partition coefficient n-octanol/water	2.88 (at 20 °C)

Propane (74-98-6)	
Partition coefficient n-octanol/water	2.3

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

UN-No.(DOT/TDG) : UN1075

Proper Shipping Name (DOT/TDG) : Petroleum gases, liquefied

Class (DOT/TDG) : Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT/TDG) :

SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date : 12/11/2017

Other information : None.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

SDS HazCom 2012 - WHMIS 2015 (NexReg)

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