SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND THE COMPANY/ UNDERTAKING

1.1 Product Identifier

Butane–Propane mixture (for disposable cartridges of type 200, 190gr with internal leakage limiter under the trade name JOOKAH.

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

Intended use: In use with suitable appliances at home (any kind of butane -propane mixture appliance which conforms toEN521).

Presentation/Packaging:

- Non-Refillable (Disposable) Gas Cartridges of Type 200 (190gr net weight) with internal leakage limiter.

1.3 Details of the supplier of the safety data sheet

Horst SP GmbH

Lobgrundstraße 3

1220 Wien – AUSTRIA

E-mail: office@horst-sp.com

Telephone: +436602210201

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the material

Classification according to Regulation (EC) No 1272/2008

GHS02Flam. Gas 1

H220 Extremely flammable gas

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

Hazard pictograms

GHS02

Signal word: Danger

Hazard statements:

a. H220 Extremely flammable gas

Precautionary statements:

P210 –Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P377- Leaking gas fire – do not extinguish unless leak can be stopped safely.

P381 –In case of leakage, eliminate all ignition sources.

P403 Store in a well ventilated place.

Additional information: N/A

Hazard description:

WHMIS-symbols:

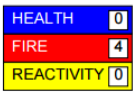
A - Compressed gas

B1 - Flammable gas

NFPA ratings (scale 0 - 4):

Health = 0
Fire = 4
Reactivity = 0

HMIS-ratings (scale 0 - 4):



Health = 0
Fire = 4
Reactivity = 0

2.3 Other Hazards

Results of PBT and vPvB assessment:

- PBT: Not applicable.
- vPvB: Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Butane

Dangerous components:		
CAS: 106-97-8 EINECS: 203-448-7	butane	 Flam. Gas 1, H220 Extremely flammable gas

Propane

Name	Product identifier
Propane Cas No : 74-98-6	 Flam. Gas 1, H220 Extremely flammable gas

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

In case of inhalation: Supply the person with fresh air; seek immediate medical attention in case the symptoms insist. Continued exposure may result in unconsciousness and/or death.

In case of skin contact: Not irritate the skin in most cases. However, long sleeved shirts and long trousers made from natural materials should be worn when handling.

In case of skin contact, immediately flush skin with plenty of cold water for at least 15

minutes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Jewelery and other objects abutting to skin, may be removed where feasible. Get medical attention immediately.

In case of eye contact: Remove any contact lenses. Immediately flush eyes thoroughly with water for at least 10 min. Lift the upper and lower eyelids occasionally to allow the liquid to evaporate. Keep the eye protected and consult immediate medical attention.

In case of swallowing: Consult immediate medical attention.

In case of frostbite: Try to warm up the frozen tissues and seek for medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: Headaches, dizziness, cough, respiration failure, unconsciousness.

Skin contact: Usually it is not skin irritating. Rarely, in case of direct and extent skin contact, it might cause frostbite.

Eye contact: Irritation.

Swallowing: Seek for medical attention.

4.3 Indication of any immediate medical attention and special treatment needed

See para. 4.1 and 4.2.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing mead: Water with full jet

5.2 Special hazards arising from the substance or mixture

Incomplete combustion creates toxic CO the inhalation of which is particularly hazardous.

It is dangerous to put out a flame if the leak cannot be completely stopped.

5.3 Advice for firefighters

As soon as a fire breaks out, evacuate all exposed flammable materials and LPG products.

Thoroughly cool by spraying with water all containers that cannot be evacuated. Do not hose down with a concentrated stream of water.

Protect personnel with fire protective clothing, great quantities of water spray or fireproof wall.

Do not enter enclosed or confined space without proper protective equipment including self-contained breathing apparatus.

Additional information: Cool endangered receptacles with water spray. If a cartridge that is connected to an appliance catches fire, do not throw or turn it upside-down, as this can only exacerbate the problem (spilling of liquid gas or container rupture). Never tip a container on fire. Keep people away.

Try to close the valve, protecting your hands and forearms with a wet cloth. If possible, take the container outside without lying it down.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Make sure of adequate air

Avoid the gas inhalation

Apply the emergency procedures

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

Avoid contact of the liquefied gas with the skin. Do not stay in the vapor cloud (butane air mixtures) but place you behind the source.

Allow to evaporate. Do not breathe fumes and vapor. Ventilate contaminated area thoroughly. Remove all sources of ignition. Take precautionary measures against static discharge. Test atmosphere for vapors to ensure safe working conditions before other personnel are allowed entering the area.

Local authorities should be advised if significant spillages cannot be contained.

Observe all relevant local and international regulations.

6.4 Reference to other sections

Refer to Section 7 (HANDLING AND STORAGE).

Refer to Section 8 (EXPOSURE CONTROLS/PERSONAL PROTECTION).

Refer to Section 13 (DISPOSAL CONSIDERATIONS).

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Follow the instructions supplied with the appliance and those indicated on the containers.

Always use in a well-ventilated area to allow for the evacuation of fumes and products of combustion (CO, $C0_2$).

Do not smoke.

Use exclusively with suitable appliances (indication on containers). Always use the containers in the upright position. Close appliance after each use.

Odorization allows a 0.5% gas content in the air to be detected. If the smell of gas is detected, search for the leak with soapy water before using the appliance. Never look for a leak with a naked flame.

Never refill an empty container.

Do not heat containers.

Material can accumulate static charges which may cause an electrical spark.

Containers, even those that have been emptied, can contain explosive vapours.

Do not cut, drill, grind, weld or perform similar operations on or near containers.

Do not pierce or burn even after use.

Do not spray onto a naked flame or any incandescent material.

Changing the cartridge: assemble or dismantle cartridge from appliance outdoors only.

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

Store in a cool and well-ventilated area, away from any source of heat or ignition.

Do not expose cartridges to a temperature exceeding 50°C/120°F.

Do not store below floor level (basement or cellar).

Store away from low-level points where vapors can accumulate.

Do not store in a vehicle (heated by direct sunlight).

Avoid contact with strong oxidizing agents and keep away from combustible materials.

Use only electrical equipment adapted (explosion proof) in the danger zones.

In great quantities, the storage may depend on specific regulations.
Store in cool, dry conditions in well-sealed receptacles.

Keep container tightly sealed.

Do not seal cartridge tight in appliance.

Protect from heat and direct sunlight.

7.3 Specific end use(s)

For domestic use only with suitable gas appliances

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Butane n- (106-97-8)		
ACGIH	ACGIH TLV-STEL (ppm)	1000 ppm
USA OSHA	Not established	

Ingredient name	**Exposure limits**
Propane	**NIOSH REL (United States, 10/2016).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant].**

Additional information: The above-mentioned values are in conformity with the values prevailing during the period of making of this SDS.

8.2 Exposure controls

Appropriate engineering controls: Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. MECHANICAL (GENERAL): Inadequate - Use only in a closed system. Use explosion proof equipment and lighting. Eye protection: Wear safety glasses with side shields or goggles when transfilling or breaking transfer connections. Wear safety glasses with side shields. Thermal hazard protection: Wear cold insulating gloves when transfilling or breaking transfer connections. Other information: Wear safety shoes while handling containers. Consider the use of flame resistant anti-static safety clothing. Wear leather safety gloves and safety shoes when handling cylinders.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.

BUTANE UN 1011

Physical state	Gas
Appearance	colorless gas
Molecular mass	58g/mol
Color	colorless
Odor	unpleasant
Odor threshold	5000 ppm
Ph	Not applicable
Relative evaporation rate (butyl acetate = 1)	No data available
Relative evaporation rate (ether =1)	No data available
Melting point	-138°C
Freezing point	No data available
Boiling point	-0.5°C
Flash point	-60°C TCC
Critical temperature	152.4°C
Auto-ignition temperature	400°C
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure	200 kPa
Critical pressure	3796 kPa
Relative vapor density at 20° C	No data available
Relative density	0.6
Density	0.573 g/cm3 (25°C)

Relative gas density	2.1
Solubility in water	88 mg/l
Log Pow	2.89
Log kow	Not applicable
Viscosity ,kinematic	Not applicable
Viscosity , dynamic	Not applicable
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Explosion limits	1.4-9.4 vol %

PROPANE UN 1978

Physical state	Gas [Compressed Gas]
pH	Not available
Color	Colorless
Melting point	-187.6°C (-305.7°F)
Boiling point	-161.48°C (-258.7°F)
Critical temperature	96.55°C (205.8°F)
Flash point	Closed cup: -104°C (-155.2°F)
	Open cup: -104°C (-155.2°F)
Evaporation rate	Not available
Flammability (solid, gas)	Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.
Lower and upper explosive(flammable) limits	Lower: 1.8%
	Upper: 8.4%
Vapor pressure	109 (psig)
Vapor density	1.6 (Air = 1)
Specific Volume (ft 3/lb)	8.6206
Gas Density (lb/ft 3)	0.116 (25°C / 77 to °F)
Relative density	Not applicable
Solubility	Not applicable
Solubility in water	0.02 g/l
Partition coefficient noctanol/water	1.09
Auto-ignition temperature	287°C (548.6°F)
Decomposition temperature	Not available
Viscosity	Not applicable
Flow time (ISO 2431)	Not available
Molecular weight	44.11 g/mole
Heat of combustion	-46012932 J/kg

9.2 Other information

Gas group: Liquefied gas

Additional information: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions: Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5. Incompatible materials: Oxidizing agent, Nickel carbonyl, Oxygen Mixtures.

10.6. Hazardous decomposition products: Thermal decomposition or burning may produce carbon monoxide, carbon dioxide, and hydrogen. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

General information: LPGs are kept in closed containers until their destruction by combustion.

BUTANE UN 1011

Acute toxicity : Not classified.

Butane n- 106-97-8	
LC50 inhalation	658 g/m3(exposure time :4 h)
ATE US(vapors)	658.00 mg/l/4h
ATEUS(dust,mist)	658.000mg/l/4h

Skin corrosion /irritation : Not classified
pH : Not applicable
Serious eye damage / irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single toxicity) Not classified
Specific target organ toxicity (repeated toxicity) : Not classified
Aspiration hazard : Not classified

PROPANE UN 1978

Acute toxicity : Not classified.

Skin corrosion / irritation : Not classified
Serious eye damage / irritation : Not classified
Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive : Not classified

Specific target organ toxicity (single toxicity) : Not classified

Specific target organ toxicity (repeated toxicity) : Not classified

Aspiration hazard : Not classified

11.2 Information on toxicological effects

Acute toxicity:

Skin irritation: No irritating effect

Serious eye damage/irritation: No irritating effect

Sensitization: No sensitizing effects known

Inhalation: Breathing in highly concentrated vapours could result in drowsiness, intoxication or narcosis and, in extreme cases, coma.

In the event of incomplete combustion, the ensuing release of carbon monoxide can cause dizziness, headaches, loss of muscular mobility and coma.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity: No relevant information available.

12.2 Persistence and degradability

BUTANE –PROPANE

Persistence and degradability.	BUTANE n-(106-97-8)	PROPANE 4-98-6
	The substance is biodegradable .Unlikely to persist.	The substance is biodegradable .Unlikely to persist.

12.3 Bio accumulative potential

Butane n-(106-97-8)	
Log Pow	2.89
Log Kow	Not applicable
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log kow <4)

12.4 Mobility in soil

Butane n-(106-97-8)	
Mobility in soil	No data available
Ecology soil	Because of its high volatility , the product is unlikely to cause ground or water pollution.

PROPANE

Soil/water partition coefficient (KOC) **not available**

Other adverse effects **:** No known significant effects or critical hazards

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No relevant information available.

Additional ecological information: Gas accidentally released into the atmosphere is rapidly diluted and undergoes photochemical decomposition.

SECTION 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.

Disposal must be made according to official regulations.

As the containers of LPGs always contain flammable vapours, never pierce or burn a cartridge, even when they are empty.

Packaging material

Electrolytic tinplate (cartridges).

SECTION 14: TRANSPORTATION INFORMATION

UN-No (ADR 2021)	:UN 2037
Name and description	:Receptacles small containing gas (gas cartridges)without a release devise non refillable.
Class	:2
Classification code	: 5F
Packing group	:-
Labels	:2.1
Special provisions	: 191 303 344
Limited quantities	:1L
Excepted quantities	: E0
Packing instruction	:P003
Special packing provision	:PP17 RR6
Mixed packing provisions	:MP9
Portable tanks and bulk containers • Instruction • Special provision	 - -
ADR tank • Tank code • Special provision	 - -
Vehicle for tank carriage	-
Transport category	2D
Special provisions for carriage • Packages • Bulk	 - -
Loading , unloading and handling	CV9, CV 12
Operation	S2
Hazard identification number No	-

DOT Special provisions : For domestic transportation only, the identification number UN 1075 may be used in place of the identification number specified in comn 4 .the identification number must be consistent on package markings , shiping papers and emergency response information.

Additional information
Other information ::No information available
Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver 's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency .Before transporting product containers :-Ensure there is adequate ventilation .- Ensure that containers are firmly secured . –Ensure cylinder valve is closed and not leaking.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Health and Safety (General Regulations): This product is not subject to the requirements

Environmental Protection (Hazardous Substances) Regulations: This product is not subject to the requirement.

Maritime and Port Authority (Dangerous Goods, Petroleum and Explosives) Regulations: This product is not subject to the requirement

Fire Safety (Petroleum & Flammable Materials) Regulations: This product is subject to the requirement

The regulatory information is not intended to be comprehensive.

Other regulations may apply to this material.

SECTION 16: OTHER INFORMATION

Revision indicators

Section:	**Subject of change:**
1	Name of the product
3	concentration of n-butane –propane mixture.

Full text of H- phrases, EUH- and P-phrases:

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leaking gas fire, eliminate all ignition sources if safe to do so.
P403	Store in a well-ventilated place.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS number	Chemical Abstract Service number
CLP	Classification, Labelling and Packaging of substances and mixtures
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
EC number	European Community number for identification of chemical substances commercially available in the EU
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code transport
LC50	Lethal concentration for 50% of tested organisms
LD50	Lethal concentration for 50% of tested organisms (medium lethal concentration)
OIN	Oil industry notes
PBT	Persistent, bioaccumulative and toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail

STOT (SE)	Specific Target Organ Toxicity (Single Exposure)
STOT (RE)	Specific Target Organ Toxicity (Repeated Exposure)
UVCB	Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials
vPvB	Very persistent and very bioaccumulative

Statement:
This SDS is in compliance with the EU Regulation No. 1907/2006 and No. 1272/2008 of the European Parliament and the Council. It contains important user health and safety and environmental protection information. The information provided herein is not a substitute for any specification of quality and should not be deemed as a guarantee of the adequacy and applicability of this product for any purpose whatsoever. All information provided herein is based on our current knowledge and compliant with applicable legal regulations. The user is responsible for adherence to relevant legal regulations.

END OF SDS