

Issue date: 27-12-2016

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

1.1	Pro	oduct	identifier

Trade name	: Butane gas cartridge for use with portable gas stove and crème-brûlée			
Synonyms	burner : Art. 199022 Gas canister 227gr			
	Art. 199039 Gas canister set 4x 227gr			
	Art. 198230 Gas canister 227gr with crème-brûlée burner			
1.2 Relevant identified uses and uses advised against				

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Relevant identified uses	: Gas cartridge for use with portable gas stove and crème-brûlée burner.			
Uses advised against	: This product should not be used for other applications than identified			
	above.			

1.3 Details of the supplier of the safety data sheet Supplier : Hendi b.v., Steenoven 21, 3911 TX Rhenen, Nederland tel: 0031 317 681040 www.hendi.eu			
1.4 Emergency telephone number	: NL NVIC Poison Centre: +31 (0)30- 2748888 (only for medical personnel in case of acute or unintentional poisoning).		
	UK National Poisons Information Service: In an emergency, members of the public should always contact their general practitioners, NHS 24 (Scotland) or NHS 111 (England and Wales) or local A&E department. FMembers of the public seeking specific information on poisons in the Republic of Ireland can contact the National Poisons Information Centre on 01 809 2166		

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

EC Index number	: 203-448-7
CLP Regulation (EC 1272/2008)	: Flam. Gas 1 (H220)
	Press. Gas. (H280)
	STOT SE 3 (H336)

2.2 Label elements

CLP Regulation (EG 1272/2008)

According to Art. 23 and section 1.3.2 in Annex I of Regulation (EC) No. 1272/2008 [CLP], regarding derogations from labelling requirements,

« If propane, butane and liquefied petroleum gas or a mixture containing these substances classified in accordance with the criteria of this Annex, is placed on the market in closed refillable cylinders or in non-refillable cartridges within the scope of EN 417 as fuel gases which are only released for combustion (current edition of EN 417, relating to 'Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances; construction, inspection, testing and marking'), these cylinders or cartridges shall only be labelled with the appropriate pictogram and the hazard and precautionary statements concerning flammability.».

Pictogram(s) Signal word	: GHS02 : <u>Danger</u>
Hazard statements	: H220 Extremely flammable gas.
Precautionary statements	: P102 Keep out of reach of children. 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 Eliminate all ignition sources if safe to do so. P403 Store in a well-ventilated place.

2.3 Other hazards

P235 Keep cool. P251 Do not pierce or burn, even after use. P402 Store in a dry place. P410+P412 Protect from sunlight. Do no expose to temperatures exceeding 50°C/122 °F.

The gas cartridge may only be used in combination with appropriate gas appliances. Follow the instructions delivered with the device. Changing cartridges: close the gas valve on the device. Remove the cartridge only in a well-ventilated area. Replace the seal on damage or loss. WARNING: DO NOT REFILL.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance : not applicable

3.2 Mixture:

Chemical name	CAS number	EC number	EC index number	Registration number	% (v/v)	Hazard statements (CLP 1272/2008)
Butane (Note C)(Note U)	106-97-8	203-448-7	601-004-00-0	01-2119474691-32	50-70	Flam. Gas 1, H220 Liquefied gas, H280
Isobutane (Note C)(Note U)	75-28-5	200-857-2	601-004-00-0	01-2119485395-27	25-35	Flam. Gas 1, H220 Press. Gas
Propane (Note U)	74-98-6	200-827-9	601-003-00-5	01-2119486944-21	0-5	Flam. Gas 1, H220 Press. Gas

Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

Note U: When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

The full text of each relevant hazard statement is listed in Section 16.

SECTION 4. FIRST AID MEASURES	
4.1 Description of first aid measures General Contact with skin	 When any doubt always seek medical attention. Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention. If there are symptoms such as
Contact with eyes	 frostbite and freezing, take the following process: warm the affected part with warm water of 41.7°C. Gently wrap the affected part in blanket. Take an immediate medical action. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell.

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Ingestion	 If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical advice (show the label where possible).
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain airway. In case of irregular breathing or respiratory arrest provide artificial respiration. If unconscious, place in the recovery position and seek medical advice.
4.2 Most important sympt	oms and offects, both acute and delayed

4.2 Most important symptoms and effects, both acute and delayed Contact with skin : Contact with the product may cause of

Contact with skin	: Contact with the product may cause cold burns or frostbite.
Contact with eyes	: May cause frostbite on contact with the liquefied gas.
Ingestion	: May cause gastric irritation.
Inhalation	: In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5. FIREFIGHTING MEASURES

5.1	I Extinguishing media	a	
	Suitable extinguishing		 Dry powder. Carbon dioxide (CO₂). Alcohol resistant foam. Water spray. Cool down canister / cartridge exposed to fire or high temperature with water at a safe distance (explosion hazard).
	Unsuitable extinguishi	ing media	
5.2	2 Special hazards aris	ing from	the substance or mixture
	Fire hazard	:	Extremely flammable gas. Heavier than air, vapours may travel long distances along ground, ignite and flash back to source.
	Explosion hazard	:	Contains gas under pressure; may explode if heated. Flammable or explosive vapour/air mixtures may be formed.
	Hazardous decompos	sition	
	products in case of fire	e :	Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide.
5.3	B Advice for fire fighte	ers	
	Firefighting instruction		Cool down the cartridges exposed to heat with a water spray. Move undamaged carteridgess from immediate hazard area if it can be done safely. Spray from a distance to keep far away from any possible explosion.
	Protective equipment	for	
	firefighters	:	Extra personal protection: complete protective clothing including self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures For non-emergency personnel Protective equipment: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Emergency procedures: Immediately contact emergency personnel. For emergency responders Use suitable breathing apparatus. Avoid contact with skin and eyes. Protective equipment: Use suitable breathing apparatus. Avoid contact with skin and eyes. Emergency procedures: Evacuate area. Exclude sources of ignition and ventilate the area.

6.2 Environmental precautions

Avoid release to the environment.



6.3 Methods and material for containment and cleaning up

For containment: Stop leak if safe to do so.

Methods for cleaning up: Eliminate every possible source of ignition. Contain and/or absorb spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Dispose in a safe manner in accordance with local/national regulations. Ventilate affected area.

6.4 Reference to other sections

For personal protection - section 8. Disposal - section 13

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Keep away from sources of ignition -No smoking. Content under pressure. Do not crush, puncture or incinerate. Avoid contact with eyes. Avoid breathing gas, mist, spray, vapours. Do not use in confined spaces. Handle empty cartridges with care because residual vapours are flammable. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage

Store in a cool dry place. Keep container tightly closed. Keep away from open flames, hot surfaces and sources of ignition. Store in a well-ventilated place. Avoid temperatures exceeding 50°C (122°F). Store away from direct sunlight or other heat sources. Remove all sources of ignition. Do not smoke and do not use open fire and sparkling tools in the area of the warehouse. Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

No additional information available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Isobutane (75-28-5)		
Austria	MAK (mg/m³)	1900 mg/m ³
Austria	MAK (ppm)	800 ppm
Belgium	Limit value (ppm)	1000
Finland	HTP-arvo (8h) (mg/m ³)	1900 mg/m³
Finland	HTP-arvo (8h) (ppm)	800 ppm
Finland	HTP-arvo (15 min)	2400 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	1000 ppm
France	VME (mg/m ³)	1900 mg/m ³
France	VME (ppm)	800 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	2400 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Switzerland	VME (mg/m ³)	1900 mg/m ³
Switzerland	VME (ppm)	800 ppm
Switzerland	VLE (mg/m ³)	7200 mg/m ³
Switzerland	VLE (ppm)	3200 ppm
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
USA - ACGIH	ACGIH STEL (ppm)	1000 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA - NIOSH	NIOSH REL (TWA) (ppm)	800 ppm



According: EC 1907/2006 and modification EU 2015/830

Propane (74-98-6)		
Austria	MAK (mg/m³)	1800 mg/m ³
Austria	MAK (ppm)	1000 ppm
Austria	MAK Short time value (mg/m ³)	3600 mg/m ³
Austria	MAK Short time value (ppm)	2000 ppm
Belgium	Limit value (ppm)	1000 ppm
Denmark	Grænseværdie (langvarig) (mg/m3)	1800 mg/m³
Denmark	Grænseværdie (langvarig) (ppm)	1000 ppm
Denmark	Grænseværdie (kortvarig) (mg/m ³)	3600 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	2000 ppm
Finland	HTP-arvo (8h) (mg/m ³)	1500 mg/m ³
Finland	HTP-arvo (8h) (ppm)	800 ppm
Finland	HTP-arvo (15 min)	2000 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	1100 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	1800 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Latvia	OEL TWA (mg/m³)	1800 mg/m ³
Latvia	OEL TWA (ppm)	1000 ppm
Poland	NDS (mg/m ³)	1800 mg/m ³
Norway	Grenseverdier (AN) (mg/m ³)	900 mg/m ³
Norway	Grenseverdier (AN) (ppm)	500 ppm
Switzerland	VME (mg/m ³)	1800 mg/m ³
Switzerland	VME (ppm)	1000 ppm
Switzerland	VLE (mg/m ³)	7200 mg/m ³
Switzerland	VLE (ppm)	4000 ppm
Canada (Quebec)	VEMP (mg/m ³)	1800 mg/m ³
Canada (Quebec)	VEMP (ppm)	1000 ppm
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1800 mg/m ³
USA - NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA - OSHA	Local name	Propane
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	1800 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
butane (106-97-8)		1
Austria	MAK (mg/m ³)	1900 mg/m ³
Austria	MAK (ppm)	800 ppm
Austria	MAK Short time value (mg/m ³)	3800 mg/m ³
Austria	MAK Short time value (ppm)	1600 ppm
France	Local name	n-Butane
France	VME (mg/m ³)	1900 mg/m ³
France	VME (ppm)	800 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	2400 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Spain	VLA-ED (mg/m³)	1935 mg/m ³
Spain	VLA-ED (ppm)	800 ppm
United Kingdom	Local name	Butane
United Kingdom	WEL TWA (mg/m³)	1450 mg/m ³
United Kingdom	WEL TWA (ppm)	600 ppm
United Kingdom	WEL STEL (mg/m ³)	1810 mg/m ³



According: EC 1907/2006 and modification EU 2015/830

butane (106-97-8)		
United Kingdom	WEL STEL (ppm)	750 ppm
United Kingdom	Remark (WEL)	Carc (Capable of causing cancer and/or heritable genetic damage. See paragraphs 49– 51), (only applies if Butane contains more than 0.1% of buta-1,3-diene)
Switzerland	VME (mg/m ³)	1900 mg/m ³
Switzerland	VME (ppm)	800 ppm
Australia	TWA (mg/m³)	1450 mg/m ³
Australia	TWA (ppm)	600 ppm
Australia	STEL (mg/m³)	1810 mg/m ³
Australia	STEL (ppm)	750 ppm
Canada (Quebec)	VEMP (mg/m ³)	1900 mg/m ³
Canada (Quebec)	VEMP (ppm)	800 ppm
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
USA - ACGIH	ACGIH STEL (ppm)	1000 ppm

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8.2 Exposure controls

Appropriate engineering controls

Personal protective equipment Hand protection Eye protection Respiratory protection



Provide adequate ventilation. Use explosion-proof ventilating equipment. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Gloves. Safety glasses.

Wear suitable gloves tested to EN 374

Chemical goggles or safety glasses. DIN EN 166

In case of insufficient ventilation, wear suitable respiratory

equipment. Gas filtering equipment (EN 141)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties



According: EC 1907/2006 and modification EU 2015/830

Explosive properties Oxidising properties Explosive limits

- : no data available
- : no data available

: 1.8 - 2.2 vol % (based on different components values) 8.4 - 9.5 vol % (based on different components values)

9.2 Other information

No additional information available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions of use. Extremely flammable gas. May form flammable/explosive vapour-air mixture.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No additional information available.

10.4 Conditions to avoid

Heat/sparks/open flames/hot surfaces. Direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents, nitric acid, chlorine dioxide.

10.6 Hazardous decomposition products

Carbon oxides (CO, CO2).

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

: Not classified

Butane Gas Cartridge	
LC50 inhalation rat (mg/l)	658.000 mg/m³

Skin corrosion/irritation	: Not classified pH: Not applicable
Serious eye damage/irritation	: Not classified (based on available data, the classification criteria are not met) pH: Not applicable
Additional information	: Not irritating to rabbits on ocular application
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified



11.2 Other information

: Information regarding acute and/or delayed results of the exposure was defined on the basis of the information on product's classification and/or toxicological studies as well as the experience and knowledge of the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

No additional information available.

- 12.2 Persistence and degradability Not applicable.
- **12.3 Bioaccumulative potential** Low Pow: 2.36 - 2.89 (based on different components values)

12.4 Mobility in soil

Ecology - soil: Adsorbs into the soil. Low mobility (soil)

12.5 Results of PBT and vPvB assessment No additional information available.

12.6 Other adverse effects

No additional information available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	: Do not incinerate cartridges, even when empty. Dispose of contents/cartridges to comply with applicable local, national and international regulations. Handle empty cartridges with care because residual vapours are flammable.
13.2 Other information	: Take note of framework waste Directive (2008/98/EC) and Directive on packaging and packaging waste (94/62/EC).

SECTION 14. TRANSPORT INFORMATION

14.1 Transport by road (ADR) and by rail (RID)		
UN number	: 2037	
Proper shipping name	: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)	
Transport hazard class(es)	: 2.1	
Environmental hazards		
Packing group	 Product is not dangerous for the environment Not applicable 	
	\bigcirc	
Other information	: Limited quantities 1 Itr (ADR/RID)	
	Flashpoint: -10460 °C	
	Tunnel restriction code (ADR): D	
	Classification code (ADR/RID): 5F	
	Special provisions (ADR/RID): 191, 303, 344	
	Excepted quantities (ADR/RID): E0	
	Packing instructions (ADR/RID): P003	
	Special packing provisions (ADR/RID): PP17, RR6	
	Mixed packing provisions (ADR/RID): MP9	



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	Transport category (ADR/RID): 2 Special provisions for carriage - Loading, unloading and handling (ADR): CV9, CV12 Special provisions for carriage - Operation (ADR): S2 Special provisions for carriage - Loading, unloading and handling (RID): CW9, CW12 Colis express (express parcels) (RID): CE2 Hazard identification number (RID): 23
 14.2 Transport by inland waterways (A UN number Proper shipping name Transport hazard class(es) Environmental hazards Packing group Other information 	 DN) 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) 2.1 Product is not dangerous for the environment Not applicable Limited quantities 1 ltr, Flashpoint: -10460 °C Classification code: 5F Special provisions: 191, 303, 344
14.3 Transport by sea (IMDG) UN number Proper shipping name	Excepted quantities: E0 Equipment required: PP, EX, A Ventilation: VE01 Number of blue cones/lights: 1 : 2037 : RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Transport hazard class(es) Environmental hazards Packing group Other information	 : 2.1 Product is not dangerous for the environment : Not applicable : Special provisions: 191, 277, 303, 344 Limited quantities: SP277 Flashpoint: -10460 °C Excepted quantities: E0 Packing instructions: P003
14.4 Transport by siz (10.40, (14.7.4)	Special packing provisions: PP17 EmS-No. (Fire): F-D EmS-No. (Spillage): S-U Stowage category: B Stowage and handling: SW2 Properties and observations: Normally contain mixtures of liquefied Butane and Propane in various proportions for use in camping stoves, etc. MFAG-No: 126
14.4 Transport by air (ICAO / IATA)	: Not allowed

14.5 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation (EC)

REACH (EC 1907/2006)

- b) Authorisation (Title VII)
- : Components are not included on authorisation list.
- c) Restrictions (Title VIII) : Compone
- : Components are not included on list of restrictions.

a) Substance of potential concern (Art.59) : Components are not included as substance of potential concern.



Other legislation (EC)	: See section 13.
National laws	: See section 8.

15.1.2 National regulations

Germany

VwVwS Annex reference: Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to VwVwS, Annex 4).

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance).

Netherlands

SZW-lijst van kankerverwekkende stoffen: None of the components are listed SZW-lijst van mutagene stoffen: None of the components are listed NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: None of the components are listed NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: None of the components are listed NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ortwikkeling: None of the components are listed

Denmark

Class for fire hazard : Class I-1 Store unit : 1 liter Classification remarks Recommendations Danish Regulation	 : F+ <flam. 1;="" compressed="" gas="">; Emergency management guidelines for the storage of flammable liquids must be followed.</flam.> : Young people below the age of 18 years are not allowed to use the product. 	
15.2 Chemical safety assessment	Product.No chemical safety assessment has been carried out.	

SECTION 16. OTHER INFORMATION

16.1 Revision comments

A vertical line in the left margin indicates that there is a relevant amendment from the previous version.

16.2 Abbreviations and acronyms used in the safety data sheet

Hazards identification (Section 2)	 Flam. Gas 1 = Flammable gases, Category 1 Press. Gas = Gases under pressure STOT SE 3 = Specific Target Organ Toxicity, Single Exposure H220 = Extremely flammable gas H280 = Contains gas under pressure; may explode if heated H336 = May cause drowsiness or dizziness
Toxicological information (Section 11)	: LC50 = Median lethal concentration
Ecological information (Section 12)	: PBT = Persistent bioaccumulative toxic chemical vPvB = Very persistent and very bioaccumulative
Transport information (Section 14)	 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. IATA = International Air Transport Association. ICAO = International Civil Aviation Organization. IMDG = International Transport of Dangerous Goods by sea RID = International Regulations governing the carriage of dangerous goods by rail.



16.3 References and sources for data : Safety data sheet manufacturer

16.4 Other information and disclaimer

All information given in this Safety Data Sheet is exclusively related to the product described and is provided assuming that the product will be used in a way and for the purposes as stated by the manufacturer. The information is based on our present state of knowledge and will be reviewed regularly. This Safety Data Sheet has only been set up with the intention to describe the safety aspects of the product and therefore should not be construed as guaranteeing specific properties of the product of concern or its suitability for a particular application. It is the user's own responsibility to take the precautionary measures described and also to take care that this information is complete and adequate for the use of this product. It is recommended to pass through the information in this Safety Data Sheet, whenever necessary in an adapted form, to all staff and interested parties of concern.

• Changes, printing and typesetting errors reserved.