



SAFETY DATA SHEET

Butane Battery® Butane Cartridge

According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Butane Battery® Butane Cartridge
Chemical name	Hydrocarbons, C3-4-rich, petroleum distillate
Product number	D2, D4, P2, S4, S6, A4
Synonyms; trade names	Petroleum gas
CAS number	68512-91-4
EU index number	649-083-00-0
EC number	270-990-9

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

Identified uses	Fuel for portable gas appliances.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	JFA Ltd Riverside Mill Lane Taplow Berks SL6 0AA Tel: 01628 637111 Fax: 01628 773030 chris@jfaexport.com
----------	--

1.4. Emergency telephone number

Emergency telephone	+44 (0) 1628 637111 (Mon - Fri, 0900 - 1700)
---------------------	--

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

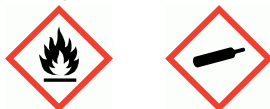
Classification (EC 1272/2008)

Physical hazards	Flam. Gas 1 - H220 Press. Gas, Liquefied - H280
Health hazards	Not Classified
Environmental hazards	Not Classified

2.2. Label elements

EC number	270-990-9
-----------	-----------

Pictogram



Butane Battery® Butane Cartridge

Signal word	Danger
Hazard statements	H220 Extremely flammable gas. H280 Contains gas under pressure; may explode if heated.
Precautionary statements	P102 Keep out of reach of children. P251 Do not pierce or burn, even after use. P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 Eliminate all ignition sources if safe to do so. P410+P403 Protect from sunlight. Store in a well-ventilated place. P412 Do not expose to temperatures exceeding 50°C/122°F. P501 Dispose of contents/ container in accordance with national regulations.
Supplementary precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	Butane Battery® Butane Cartridge
Chemical name	Hydrocarbons, C3-4-rich, petroleum distillate
EU index number	649-083-00-0
CAS number	68512-91-4
EC number	270-990-9

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel. Keep affected person away from heat, sparks and flames.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	In the event of an incident leading to contact with the liquid contents: Remove person to fresh air and keep comfortable for breathing. Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell.
Skin contact	In the event of an incident leading to contact with the liquid contents: Rinse with water. Thaw frosted parts with lukewarm water. Do not rub affected area.
Eye contact	In the event of an incident leading to contact with the liquid contents: Rinse with water. Get medical attention if any discomfort continues.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known. Overexposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo.

Butane Battery® Butane Cartridge

Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur.
Skin contact	No specific symptoms known. In the event of an incident leading to contact with the liquid contents: Contact with liquid form may cause frostbite.
Eye contact	No specific symptoms known. In the event of an incident leading to contact with the liquid contents: Contact with liquid form may cause frostbite.

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

Notes for the doctor	Treat symptomatically.
-----------------------------	------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. Vapours may accumulate on the floor and in low-lying areas. Vapours may form explosive mixtures with air.

Hazardous combustion products Hydrocarbons. Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. If involved in a fire, shut off flow if it can be done without risk. Large fires: Allow fire to burn out. Small fires: Fight fire remotely due to the risk of explosion. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Vapours may form explosive mixtures with air. Risk of explosion. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated.

6.2. Environmental precautions

Environmental precautions Exposure to aquatic environment unlikely.

6.3. Methods and material for containment and cleaning up

Butane Battery® Butane Cartridge

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions May damage fertility. Suspected of damaging the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child. Suspected of damaging the unborn child.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Protect from sunlight.

Storage class Flammable compressed gas storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 600 ppm 1450 mg/m³

Short-term exposure limit (15-minute): WEL 750 ppm 1810 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation.

Eye/face protection Avoid contact with eyes. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

Hand protection No specific requirements are anticipated under normal conditions of use. In the event of an incident leading to contact with the liquid contents: Wear protective gloves.

Hygiene measures Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

Respiratory protection No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

Environmental exposure controls Keep container tightly sealed when not in use. Avoid release to the environment.

Butane Battery® Butane Cartridge

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Gas.
Colour	Colourless.
Odour	Characteristic. Hydrocarbons.
pH	Not relevant.
Melting point	Not relevant.
Initial boiling point and range	-42°C @ 768 mm Hg
Flash point	< -60°C
Evaporation rate	Not determined.
Flammability (solid, gas)	Flammable Gas
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 3 % Upper flammable/explosive limit: 12.5 % Estimated value.
Vapour pressure	414 kPa @ 20°C
Vapour density	2.07 (butanes) 1.56 (propane)
Bulk density	~ 500 kg/m ³
Solubility(ies)	Not relevant.
Partition coefficient	log Pow: 1.09
Auto-ignition temperature	537°C
Decomposition Temperature	Not known.
Viscosity	Not relevant.
Explosive properties	Vapours may form explosive mixtures with air.
Oxidising properties	There are no chemical groups present in the product that are associated with oxidising properties.

9.2. Other information

Other information	None.
--------------------------	-------

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
-------------------	---

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
------------------	---

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The following materials may react strongly with the product: Oxidising agents.
---	--

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up.
----------------------------	--

Butane Battery® Butane Cartridge

10.5. Incompatible materials

Materials to avoid Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD₅₀) Not relevant.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not relevant.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 1443 mg/l, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Human skin model test Not irritating. Contact with liquid form may cause frostbite.

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL 10000 ppm, Inhalation, Mouse REACH dossier information. Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEC 10000 ppm, Inhalation, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEC: 10426 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Butane Battery® Butane Cartridge

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEC 10000 ppm, Inhalation, Rat REACH dossier information. Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Gas.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

No specific symptoms known. Overexposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo.

Ingestion

Due to the physical nature of this product, it is unlikely that ingestion will occur.

Skin contact

No specific symptoms known. In the event of an incident leading to contact with the liquid contents: Contact with liquid form may cause frostbite.

Eye contact

No specific symptoms known. In the event of an incident leading to contact with the liquid contents: Contact with liquid form may cause frostbite.

Route of entry

Inhalation Skin and/or eye contact

Target organs

No specific target organs known.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Acute toxicity - fish

LC₅₀, 96 hours: 49.47 mg/l, Fish, Estimated value.

Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 16.33 mg/l, Estimated value.

Acute toxicity - aquatic plants

EC₅₀, 96 hours: 16.5 mg/l, Algae, Estimated value.

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Phototransformation

Water - Degradation : 1906 days

Biodegradation

Water - Degradation (100%): 385.5 hours

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient

log Pow: 1.09

12.4. Mobility in soil

Mobility

The product has poor water-solubility.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects

None known.

Butane Battery® Butane Cartridge

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	The generation of waste should be minimised or avoided wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. Do not puncture or incinerate, even when empty.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section. As supplied, this product is consigned under the Limited Quantities provisions.

Air transport notes As supplied not packaged suitably for air.

14.1. UN number

UN No. (ADR/RID)	2037
UN No. (IMDG)	2037
UN No. (ICAO)	2037
UN No. (ADN)	2037

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper shipping name (IMDG)	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper shipping name (ICAO)	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper shipping name (ADN)	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)

14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	5F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

Transport labels



14.4. Packing group

ADR/RID packing group	Not relevant.
------------------------------	---------------

Butane Battery® Butane Cartridge

IMDG packing group	Not relevant.
ICAO packing group	Not relevant.
ADN packing group	Not relevant.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS	F-D, S-U
ADR transport category	3
Tunnel restriction code	(D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not relevant.

**Annex II of MARPOL 73/78
and the IBC Code**

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Other Regulations	Does not contain additives identified as being potentially nano (silica, titanium dioxide, gold, silver) or ingredients containing these additives.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	LC50 - Median Lethal Concentration LD50 - Median Lethal Dose NOAEC - No Observed Adverse Effect Concentration EC50 - Half maximal Effective Concentration PBT - Persistent, Bioaccumulative and Toxic vPvB - Very Persistent, Very Bioaccumulative
General information	Product is labelled as per regulation (EC) 1272/2008, Annex I Section 1.3.2, regarding LPG products. Compliant with EN417.

Butane Battery® Butane Cartridge

Classification procedures according to Regulation (EC) 1272/2008	Flam. Gas 1 - H220, Press. Gas, Liquefied - H280: Expert judgement.
Training advice	Read and follow manufacturer's recommendations.
Revision comments	Data sheet reviewed.
Revision date	05/09/2016
Revision	2
Supersedes date	01/06/2013
SDS number	4857
Hazard statements in full	H220 Extremely flammable gas. H280 Contains gas under pressure; may explode if heated.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.