

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 1 / 11

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

1.1 Product identifier

UN 2037 Fuel Cell HP
Fuel Cell 31,5 x 80 HP
Fuel Cell 31,5 x 115 HP
Fuel Cell 31,5 x 140 HP
Fuel Cell 31,5 x 152 HP
Fuel Cell 31,5 x 165 HP
Fuel Cell 31,5 x 165 HP JP
Fuel Cell 31,5 x 165 HP Superfuel
Fuel Cell 30ml, Fuel Cell 45ml, Fuel Cell 80ml
Article number: 400835 (30ml); 400836 (45ml, 80ml);
401445 (80ml); 401446 (80ml); 401447 (45ml); 401538 (80ml)

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

1.2.1 Relevant uses

Gas cartridge

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

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Address enquiries to

Technical information vertrieb@okbefestigung.de

Safety Data Sheet sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Company +49 177 3202922

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Flam. Gas 1A: H220 Extremely flammable gas.
Press. Gas (Liquefied gas): H280 Contains gas under pressure; may explode if heated.



OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 2 / 11

2.2 Label elements

	The product is required to be labelled in accordance with regulation CLP.	
Hazard pictograms		
Signal word	DANGER	
Hazard statements	H220 Extremely flammable gas. H280 Contains gas under pressure; may explode if heated.	
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. P403 Store in a well-ventilated place. P410 Protect from sunlight.	

2.3 Other hazards

Physico-chemical hazards	Vapours may form explosive mixture with air.
Human health dangers	Contact with product may cause cryogenic burns/frostbite. High concentrations can cause a suffocating. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Environmental hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
0 - < 50	1-Butene CAS: 106-98-9, EINECS/ELINCS: 203-449-2, EU-INDEX: 601-012-00-4 GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
0 - < 50	Propene CAS: 115-07-1, EINECS/ELINCS: 204-062-1, EU-INDEX: 601-011-00-9 GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
0 - < 50	Propane CAS: 74-98-6, EINECS/ELINCS: 200-827-9, EU-INDEX: 601-003-00-5, Reg-No.: 01-2119486944-21-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280
0 - < 50	Hydrocarbons, C3 CAS: 68606-26-8, EINECS/ELINCS: 271-735-4, Reg-No.: 01-2119521732-46-XXXX GHS/CLP: Flam. Gas 1A: H220 - Press. Gas: H280

Comment on component parts For full text of H-statements: see SECTION 16.

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 3 / 11

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Remove affected person from danger area, lay down.
Inhalation	Ensure supply of fresh air. Remove the victim into fresh air and keep him calm. In the event of symptoms seek medical treatment.
Skin contact	In case of contact with skin wash off with warm water. In case of frostbite, rinse with plenty of water. Do not remove clothing. In the event of symptoms seek medical treatment.
Eye contact	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.
Ingestion	Rinse mouth. Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to your doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Foam, dry powder, water spray jet, carbon dioxide
Extinguishing media that must not be used	Full water jet

5.2 Special hazards arising from the substance or mixture

Bursting gas cylinder can be forcibly projected from a fire.
In the event of fire the following can be released:
Carbon monoxide (CO)
Carbon dioxide (CO₂)

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Do not inhale explosion and/or combustion gases.
Do not extinguish, unless leak can be stopped safely.
Cool containers at risk with water spray jet.
Heat causes increase in pressure and risk of bursting - Keep away from the container.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.
Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 4 / 11

6.3 Methods and material for containment and cleaning up

Use explosion-proofed equipment/fittings and non-sparkling tools.
Ensure adequate ventilation.
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 7+8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid contact with eyes and skin.

Keep away from open flames, hot surfaces and sources of ignition.
Do not smoke.
Take precautionary measures against static discharges.
Use explosion-proofed equipment/fittings and non-sparkling tools.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C.
Do not pierce or burn, even after use.

Do not eat, drink, smoke or take drugs at work.
Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.
Store in a dry place.
Protect from heat/overheating and from sun.
Do not keep at temperatures above 50 °C.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance
Hydrocarbons, C3
CAS: 68606-26-8, EINECS/ELINCS: 271-735-4, Reg-No.: 01-2119521732-46-XXXX
Long-term exposure: 1000 ppm, 1800 mg/m ³ , ACGIH (Propane)

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

DNEL

Substance
Propane, CAS: 74-98-6
There are no DNEL values established for the substance.

PNEC

Substance
Propane, CAS: 74-98-6
There are no PNEC values established for the substance.

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 5 / 11

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Not required under normal conditions.
Hand protection	Not required under normal conditions. > 0.11 mm Butyl rubber, >240 min (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340)
Other	Do not inhale aerosols. Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Not required under normal conditions. In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter AX (DIN EN 14387).
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	gas Liquefied gas
Form	Gas cartridge
Color	No information available.
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	No information available.
Flash point [°C]	not applicable
Flammability	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	not applicable
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/cm³]	not applicable
Relative density	not applicable
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	not applicable
Kinematic viscosity	not applicable
Relative vapour density	No information available.
Evaporation speed	No information available.
Melting point [°C]	not applicable
Auto-ignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	not applicable

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 6 / 11

9.2 Other information

Pressure (propellant gas): 8.6 bar (21°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.
Heat causes increase in pressure and risk of bursting.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

No dangerous reactions known if used as directed.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Heat causes increase in pressure and risk of bursting.

10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

No decomposition if used and stored according to specifications.
In the event of fire: See SECTION 5.

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 7 / 11

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

Product

Based on the available information, the classification criteria are not fulfilled.

Acute dermal toxicity

Product

Based on the available information, the classification criteria are not fulfilled.

Acute inhalational toxicity

Product

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

LC50, inhalative, Rat, > 1443 mg/l (15 min) (Lit.)

Serious eye damage/irritation

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

Eye, non-irritating

Skin corrosion/irritation

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

dermal, non-irritating

Respiratory or skin sensitisation

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

inhalative, non-sensitizing

dermal, non-sensitizing

Specific target organ toxicity — single exposure

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

inhalative, non-irritating

Specific target organ toxicity — repeated exposure

Based on the available information, the classification criteria are not fulfilled.

Substance

Propane, CAS: 74-98-6

NOAEC, inhalative, Rat, 4437 mg/m³, The effects observed are not sufficient for classification.

Mutagenicity

Based on the available information, the classification criteria are not fulfilled.

Reproduction toxicity

Based on the available information, the classification criteria are not fulfilled.

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 8 / 11

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard Based on the available information, the classification criteria are not fulfilled.
General remarks

Toxicological data of complete product are not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2 Other information none

SECTION 12: Ecological information

12.1 Toxicity

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability No information available.

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Ecological data of complete product are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the authorities if necessary.
Dispose of contents/container in accordance with local/national regulation.
The disposal by sewage disposal systems is generally not allowed.

Waste no. (recommended) 160504* gases in pressure containers (including halons) containing dangerous substances

Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150111*

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 9 / 11

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to ADR/RID 2037

Inland navigation (ADN) 2037

Marine transport in accordance with IMDG 2037

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID RECEPTACLES, SMALL CONTAINING GAS (GAS CARTRIDGES)

- Classification Code 5F

- Label



- ADR LQ 1 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 2 (D)

Inland navigation (ADN) RECEPTACLES, SMALL CONTAINING GAS (GAS CARTRIDGES)

- Classification Code 5F

- Label



Marine transport in accordance with IMDG RECEPTACLES, SMALL CONTAINING GAS (GAS CARTRIDGES)

- EMS F-D, S-U

- Label



- IMDG LQ 1 I

Air transport in accordance with IATA FORBIDDEN

14.3 Transport hazard class(es)

Transport by land according to ADR/RID 2

Inland navigation (ADN) 2

Marine transport in accordance with IMDG 2.1

Air transport in accordance with IATA not applicable

OK Befestigung GmbH & Co. KG
47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0 Page 10 / 11

14.4 Packing group

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS 2008/98/EC 2000/532/EC; 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148

- **Comment on component parts** Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.

- **Annex I (REACH)** The product is not subject to Annex I restrictions.

- **Annex XIV (REACH)** According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances $\geq 0.1\%$ that are subject to authorisation.

- **Annex XVII (REACH)** According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product contains $\geq 0.1\%$ of substances with the following restrictions. 40

According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is not subject to any restrictions.

TRANSPORT-REGULATIONS ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2023)

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.

- **Observe employment restrictions for people** Observe employment restrictions for young people. SEVESO III (Directive 2012/18/EU), Hazard categories in accordance with Regulation (EC) No 1272/2008:

P2 FLAMMABLE GASES

Named dangerous substances:

18. Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas.

- **VOC (2010/75/CE)** ca. 98 %

OK Befestigung GmbH & Co. KG

47802 Krefeld

Date printed 27.09.2023, Revision 27.09.2023

Version 1.0

Page 11 / 11

15.2 Chemical safety assessment

No information available.

SECTION 16: Other information**16.1 Hazard statements (SECTION 3)**

H280 Contains gas under pressure; may explode if heated.
 H220 Extremely flammable gas.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 EL50 = Median effective loading
 ELINCS = European List of Notified Chemical Substances
 EmS = Emergency Schedules
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 IVIS = In vitro irritation score
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 LL50 = Median lethal loading
 LQ = Limited Quantities
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Flam. Gas 1A: H220 Extremely flammable gas. (Calculation method)
 Press. Gas (Liquefied gas): H280 Contains gas under pressure; may explode if heated.
 (Calculation method)

Modified position

none

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