SAFETY DATA SHEET

In accordance with 1907/2006 annex II 2015/830 and 1272/2008
(All references to EU regulations and directives are abbreviated into only the numeric term)
Revision date 2019-05-15
Replaces issued SDS 2017-05-23
Version number 4.0

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

1.1. Product identifier

Trade name	Powergas 1925°C 300ml

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

Identified uses	Propellants

1.3. Details of the supplier of the safety data sheet

Company	TECHNIQUA HANDELS GmbH Reichenhaller Straße 15 D-83451 Piding Tel: +49 (8651) - 767 62 51 E-Mail: sales@techniqua.de

1.4. Emergency telephone number

Poison information center
Tel: +49 (0) 6131 - 19240, Langenbeckstraße 1, D- 55131 Mainz

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Extremely flammable gas (Category 1A), H220
Liquefied pressurized gas, H280

2.2. Label elements

Hazard pictogram

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
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
P410+P403	Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

This product does not contain any substances that are assessed to be a PBT or a vPvB

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Note that the table shows known hazards of the ingredients in pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
BUTANE < 0.1% BUTADIENE		
CAS No: 106-97-8 EC No: 203-448-7 Index No: 601-004-00-0	Flam Gas 1, *Liq* Press gas; H220, H280	50 - 60 %
PROPANE		
CAS No: 74-98-6 EC No: 200-827-9 Index No: 601-003-00-5 REACH: 01-2119486944-21	Flam Gas 1, Press Gas *P*; H220, H280	40 - 50 %

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b.

SECTION 4: First aid measures

4.1. Description of first aid measures

Generally

In case of concern, or if symptoms occur, call a doctor/physician.

Upon breathing in

Allow the injured person to rest in a warm place with fresh air, if symptoms persist seek medical attention.

Upon eye contact

Remove contact lenses immediately if possible.

Rinse the eye for several minutes with lukewarm water. If irritation persists call a doctor/ophthalmologist.

Upon skin contact

Remove contaminated clothes.

Warm up affected parts of the body if frostbite is apparent.

In case of major frost injuries, please contact your doctor.

Upon ingestion

If symptoms persist contact a doctor.

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

No further relevant information available.

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

Symptomatic treatment.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing agents

Extinguish with powder, carbon dioxide or foam.

Unsuitable extinguishing agents

Should not be extinguished with water.

5.2. Special hazards arising from the substance or mixture

Gases detrimental to health (carbon monoxide and carbon dioxide) can be spread in case of fire.

The gas forms an explosive mixture with air.

In case of fire, high pressure may build up causing the packaging to explode.

Flammable gas.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

Vapors are heavier than air and may spread along floors.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use recommended safety equipment, see section 8.

Do not inhale the gas.

Area should be evacuated and gases removed with ventilation.

Note, risk of ignition and explosion.

Switch off equipment which has an exposed flame, glows, or has a heat source of some other kind.

Note, risk for formation of sparks due to static electricity. Do not remove clothing in a room where spillage has occurred.

6.2. Environmental precautions

Notify rescue services for larger spillage.

Prevent from entering sewers, basements and pits, or any place where gas accumulation could be dangerous.

6.3. Methods and material for containment and cleaning up

Let the gas from the leaking gas cylinders evaporate outdoors.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not inhale fumes and avoid contact with skin and eyes.

Handle in premises with good ventilation.

Do not eat, drink or smoke in premises where this product is handled.

Open fires, hot objects, spark formation, or other sources of ignition, are not allowed in the premises where this product is handled. Prevent build up of static electricity by utilising a semi-conducting floor and shoe soles and keep humidity above 50%.

An evacuation plan should be available and evacuation routes must not be blocked.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored in a manner which prevents hazards to health and the environment. Avoid exposure to humans and animals and do not discharge the product in a sensitive environment.

Contact with the liquid product can cause injuries from hypothermia.

Store in a dry place not above normal room temperature.

Store in a well-ventilated space.

Store tightly, in original packaging.

Do not store in direct sunlight.

7.3. Specific end uses

See identified uses in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National limit values

BUTANE < 0.1% BUTADIENE

United Kingdom (EH40/2005)

Time-weighted-average exposure limit (TWA) 600 ppm / 1450 mg/m^3

Short term exposure limit (STEL) 750 ppm / 1810 mg/m^3

DNEL

No data available.

PNEC

No data available.

8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the physical hazards (see Sections 2 and 10) of this product according to EU directives 89/391 and 98/24 and national occupational legislation.

8.2.1. Appropriate engineering controls

Handle in premises with good ventilation.

Eye/face protection

Eye protection should be worn if there is any danger of direct exposure or splashing.

Skin protection

Release of gas can cause strong cold. Gloves protecting against cold, labelled with the "cold hazard" pictogram, is recommended.

Respiratory protection

Use proper protective breathing equipment in case of insufficient ventilation.

Gas filter AX is recommended.

A respiratory mask may be required.

8.2.3. Environmental exposure controls

No specific measures needed.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	Form: Liquefied gas mixture. Colour: colourless.
b) Odour	Distinctive and unpleasant if odorized, otherwise odorless
c) Odour threshold	Not indicated
d) pH	Not indicated
e) Melting point/freezing point	-188 °C
f) Initial boiling point and boiling range	-42 °C
g) Flash point	-40 °C
h) Evaporation rate	Not indicated
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Lower explosion limit 2% Upper explosion limit 11%
k) Vapour pressure	430 kPa (15°C)
l) Vapour density	1.5 (15 °C, air = 1)
m) Relative density	0.5 kg/L
n) Solubility	Not indicated
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	450 °C
q) Decomposition temperature	Not indicated
r) Viscosity	Not indicated
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Avoid heat, sparks and open flames.

10.5. Incompatible materials

Avoid contact with oxidizers.

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

This product's main risk is its flammability.

Acute toxicity

The criteria for classification cannot be considered fulfilled based on available data.

PROPANE

LC50 rat 4h: 658 mg/L Inhalation

Skin corrosion/irritation

Contact with compressed gas may cause frostbites.

Serious eye damage/irritation

Contact with compressed gas may cause frostbites.

Respiratory or skin sensitisation

The criteria for classification cannot be considered fulfilled based on available data.

Germ cell mutagenicity

The criteria for classification cannot be considered fulfilled based on available data.

Carcinogenicity

The criteria for classification cannot be considered fulfilled based on available data.

Reproductive toxicity

The criteria for classification cannot be considered fulfilled based on available data.

STOT-single exposure

At high concentrations there is an anaesthetic or narcotic effect.

Prolonged inhalation can cause loss of consciousness and/or death.

STOT-repeated exposure

The criteria for classification cannot be considered fulfilled based on available data.

Aspiration hazard

The criteria for classification cannot be considered fulfilled based on available data.

SECTION 12: Ecological information

12.1. Toxicity

In the quantities with which this product is used, effects on the environment are negligible. Note however, that the local environment may be affected, and all discharge to the natural environment may impact ecosystems.

PROPANE

LC50 Freshwater water flea (Daphnia magna) 48h: 16.3 mg/L

LC50 Fish 96h: 16.1 mg/L

IC50 Algae 72h: 11.3 mg/L

12.2. Persistence and degradability

The product degrades easily in the natural environment.

12.3. Bioaccumulative potential

Neither this product, nor its contents, accumulates in nature.

12.4. Mobility in soil

No information about mobility in the nature exists but there is no reason to suppose the product to be ecologically harmful because of this.

12.5. Results of PBT and vPvB assessment

This product does not contain any substances that are assessed to be a PBT or a vPvB.

12.6. Other adverse effects

No known effects or hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste handling of the product

Product as well as packaging must be disposed of as hazardous waste.

Also take local regulations for dealing with waste into account.

See also national waste regulations.

This product is not usually recycled.

Classification according to 2008/98

Recommended LoW-code: 16 05 04 Gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport information

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number

2037

14.2. UN proper shipping name

RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)

14.3. Transport hazard class(es)

Class

2: Gases

Classification code (ADR/RID)

5F: Aerosols, flammable

Labels

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Tunnel restrictions

Tunnel category: D

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

14.8 Other transport information

Transport category: 2; Highest total quantity per transported unit 333 kg or liters

Stowage category not indicated (IMDG)

SECTION 15: Regulatory information

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

Not indicated.

15.2. Chemical safety assessment

Chemical safety report according to 1907/2006 Annex I is not required for this product.

SECTION 16: Other information

16a. Indication of where changes have been made to the previous version of the safety data sheet
Revisions of this document
Earlier versions
2017-05-23 Changes in section(s) 2, 4, 7, 8.

16b. Legend to abbreviations and acronyms used in the safety data sheet
Full texts for Hazard Class and Category Code mentioned in section 3

Flam Gas 1	Extremely flammable gas (Category 1)
Liq Press gas	Liquefied pressurized gas
Press Gas *P*	Compressed gas

Explanations of the abbreviations in Section 14

ADR	European Agreement concerning the International Transport of Dangerous Goods by Road
RID	Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG	International Maritime Dangerous Goods Code
ICAO	International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA	The International Air Transport Association

Tunnel restriction code: D; Passage forbidden through tunnels of category D and E type
Transport category: 2; Highest total quantity per transported unit 333 kg or liters

16c. Key literature references and sources for data
Sources for data
Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2019-05-15.
Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion. If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

1907/2006	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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
2015/830	COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
1272/2008	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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
EH40/2005	EH40/2005 Workplace exposure limits
89/391	COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
98/24	COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
2008/98	DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives
1907/2006	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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I , where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI .

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H220 Extremely flammable gas

H280 Contains gas under pressure; may explode if heated

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

This product can cause injuries if not used properly. The manufacturer, the distributor or the supplier are not responsible for adverse effects if the product is not handled in accordance with its intended use.

Other relevant information

Not indicated

Editorial information