

# KIGAS Universal Gas

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 15/01/2015

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Version: 2.2

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : KIGAS Universal Gas  
Product code : 04.03060.13.1-002  
Type of product : Aerosol  
Vaporizer : Aerosol  
Synonyms : 04.03060.13.1-002 KIGAS Universal Gas 400ml / 04.03060.15.1-002 KIGAS Universal Gas 600ml / 04.03061.07.1-003 KIGAS Universal Gas 100ml / 04.03061.13.1-001 KIGAS Universal Gas 400ml

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

##### 1.2.1. Relevant identified uses

Main use category : This product is intended for public and professional use.  
Use of the substance/mixture : Aerosol can

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Distributor

Kisag AG  
Bahnhofstrasse 3  
CH-4512 Bellach - Switzerland  
T +4132617 32 60 - F +4132617 32 70  
[kisag@kisag.ch](mailto:kisag@kisag.ch) - [www.kisag.ch](http://www.kisag.ch)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
GERMANY	Vergiftungs-Informations-Zentrale Zentrum für Kinderheilkunde und Jugendmedizin	Mathildenstrasse 1 D-79106 Freiburg	+49 761 19240
SWITZERLAND	Schweizerisches Toxikologisches Informationszentrum Centre Suisse d'Information Toxicologique, Centro Svizzero d'informazione tossicologica	Freiestrasse 16 Postfach CH-8028 Zurich	145 (24 h) aus dem Ausland: +41 44 251 51 51

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aerosol 1 H222;H229

Full text of H-phrases: see section 16

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; R12

Full text of R-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H222 - Extremely flammable aerosol  
H229 - Pressurised container: May burst if heated.

Precautionary statements (CLP) :

P102 - Keep out of reach of children  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

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smoking  
P211 - Do not spray on an open flame or other ignition source  
P251 - Do not pierce or burn, even after use  
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F  
P501 - Dispose of contents/container to Dispose of at a licensed waste collection centre

### 2.3. Other hazards

Other hazards : Caution: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material - No smoking.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5	30 - 50	F+; R12
Isobutane	(CAS No) 75-28-5 (EC no) 200-857-2 (EC index no) 601-004-00-0	15 - 30	F+; R12
Isopentane	(CAS No) 78-78-4 (EC no) 201-142-8 (EC index no) 601-006-00-1	1 - 5	F+; R12 Xn; R65 N; R51/53 R66 R67

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5	30 - 50	Flam. Gas 1, H220
Isobutane	(CAS No) 75-28-5 (EC no) 200-857-2 (EC index no) 601-004-00-0	15 - 30	Flam. Gas 1, H220
Isopentane	(CAS No) 78-78-4 (EC no) 201-142-8 (EC index no) 601-006-00-1	1 - 5	Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411

Full text of R- and H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Cough. Allow victim to breathe fresh air. Allow the victim to rest.  
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.  
First-aid measures after eye contact : Direct contact with the eyes is likely to be irritating. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.  
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after inhalation : Shortness of breath.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable liquid and vapour. Extremely flammable gas. Extremely flammable aerosol.

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Explosion hazard : May form flammable/explosive vapour-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. DO NOT fight fire when fire reaches explosives. Evacuate area.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. Eliminate every possible source of ignition. No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Flammable gas. Hazardous waste due to potential risk of explosion. Do not pierce or burn, even after use.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Do not spray on an open flame or other ignition source. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene measures : Wash immediately with plenty of soap and water.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment. Use explosion-proof Take precautionary measures against static discharge equipment.

Storage conditions : Keep in fireproof place. Do not expose to temperatures exceeding 50 °C/122 °F. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

Special rules on packaging : Keep only in original container.

### 7.3. Specific end use(s)

Have the product container or label available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Propane (74-98-6)		
Germany	Local name	Propan
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	Remark (TRGS 900)	DFG
Switzerland	Local name	Propane
Switzerland	VME (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Switzerland	VME (ppm)	1000 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	7200 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	4000 ppm
Switzerland	Remark (CH)	4x15

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Isobutane (75-28-5)		
Germany	Local name	Isobutan
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	2400 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	Remark (TRGS 900)	DFG
Isopentane (78-78-4)		
Germany	Local name	Methylbutan
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	Remark (TRGS 900)	DFG,EU
Switzerland	Local name	iso-Pentane
Switzerland	VME (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Switzerland	VME (ppm)	600 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	3600 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	1200 ppm
Switzerland	Remark (CH)	4x15
Butane n- (106-97-8)		
Germany	Local name	Butan
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	2400 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	Remark (TRGS 900)	DFG
Switzerland	Local name	Butane (les 2 isomères):n-Butane
Switzerland	VME (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
Switzerland	VME (ppm)	800 ppm

### 8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : In case of repeated or prolonged contact wear gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Chemical resistant PVC gloves (to European standard EN 374 or equivalent)	Nitrile rubber (NBR)	2 (>30 min)	>300 mm	3 (> 0.65)	EN 374

- Eye protection : Chemical goggles or safety glasses
- Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation



- Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Aerosol can.
- Colour : Colourless.
- Odour : characteristic.
- Odour threshold : No data available
- pH : No data available
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : -44
- Flash point : -97 °C
- Auto-ignition temperature : No data available

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Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas, Extremely flammable aerosol, Extremely flammable liquid and vapour
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established. Extremely flammable gas. Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition. Extremely flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>KIGAS Universal Gas</b>	
LC50 inhalation rat (ppm)	658 - 1280 ppm/4h

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

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Vaporizer	Aerosol

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

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### 12.2. Persistence and degradability

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Persistence and degradability	Not established.
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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Additional information : Avoid release to the environment

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use. Dispose of contents/container to an approved waste disposal plant.

Additional information : Handle empty containers with care because residual vapours are flammable. Flammable vapours may accumulate in the container.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 19 02 10 - combustible wastes other than those mentioned in 19 02 08 and 19 02 09

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR)	: 1950
UN-No. (IMDG)	: 1950
UN-No. (IATA)	: 1950
UN-No. (ADN)	: 1950
UN-No. (RID)	: 1950

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: AEROSOLS
Proper Shipping Name (IMDG)	: AEROSOLS, FLAMMABLE
Proper Shipping Name (IATA)	: Aerosols, flammable
Proper Shipping Name (ADN)	: AEROSOLS, FLAMMABLE
Proper Shipping Name (RID)	: AEROSOLS
Transport document description (ADR)	: UN 1950 AEROSOLS, 2.1, (D)
Transport document description (IMDG)	: UN 1950 AEROSOLS, FLAMMABLE, 2.1

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 2.1

Danger labels (ADR) : 2.1



#### IMDG

Transport hazard class(es) (IMDG) : 2.1

Danger labels (IMDG) : 2.1

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### IATA

Transport hazard class(es) (IATA) : 2.1

Hazard labels (IATA) : 2.1



### ADN

Transport hazard class(es) (ADN) : 2.1

Danger labels (ADN) : 2.1



### RID

Transport hazard class(es) (RID) : 2.1

Danger labels (RID) : 2.1



#### 14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

#### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

#### 14.6. Special precautions for user

##### 14.6.1. Overland transport

Classification code (ADR) : 5F

Special provisions (ADR) : 190, 327, 344, 625

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P207, LP02

Special packing provisions (ADR) : PP87, RR6, L2

Mixed packing provisions (ADR) : MP9

Transport category (ADR) : 2

Special provisions for carriage - Packages (ADR) : V14

Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV12

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Special provisions for carriage - Operation (ADR) : S2

Tunnel restriction code (ADR) : D

### 14.6.2. Transport by sea

Special provisions (IMDG) : 63, 190, 277, 327, 344, 959

Limited quantities (IMDG) : SP277

Excepted quantities (IMDG) : E0

Packing instructions (IMDG) : P207, LP02

Special packing provisions (IMDG) : PP87, L2

EmS-No. (Fire) : F-D

EmS-No. (Spillage) : S-U

Stowage category (IMDG) : None

MFAG-No : 126

### 14.6.3. Air transport

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) : Y203

PCA limited quantity max net quantity (IATA) : 30kgG

PCA packing instructions (IATA) : 203

PCA max net quantity (IATA) : 75kg

CAO packing instructions (IATA) : 203

CAO max net quantity (IATA) : 150kg

Special provisions (IATA) : A145, A167

ERG code (IATA) : 10L

### 14.6.4. Inland waterway transport

Classification code (ADN) : 5F

Special provisions (ADN) : 19, 327, 344, 625

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E0

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01, VE04

Number of blue cones/lights (ADN) : 1

Not subject to ADN : No

### 14.6.5. Rail transport

Classification code (RID) : 5F

Special provisions (RID) : 190, 327, 344, 625

Limited quantities (RID) : 1L

Excepted quantities (RID) : E0

Packing instructions (RID) : P207, LP02

Special packing provisions (RID) : PP87, RR6, L2

Mixed packing provisions (RID) : MP9

Transport category (RID) : 2

Special provisions for carriage – Packages (RID) : W14

Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW12

Colis express (express parcels) (RID) : CE2

Hazard identification number (RID) : 23

Carriage prohibited (RID) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions

Contains no substance on the REACH candidate list



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Contains no REACH Annex XIV substances

### 15.1.2. National regulations

#### Germany

Water hazard class (WGK) : 1 - low hazard to waters

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : 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.

Other information : None.

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

Aerosol 1	Aerosol, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Gas 1	Flammable gases, Category 1
Flam. Liq. 1	Flammable liquids, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H224	Extremely flammable liquid and vapour
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects
R12	Extremely flammable
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness
F+	Extremely flammable
N	Dangerous for the environment
Xn	Harmful

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*