SIEMENS

Test gas REF8-S

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Version 7.0; date of issue 1.April 2019 Replaces version 6.0; date of issue 9.9.2015

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

1.1. Product identifier

Product form : Mixture

Product name : Test gas REF8-S

Product code : A5Q00011688

Type of product : Aerosol

Vaporizer : Aerosol

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

1.2.1. Relevant identified uses

Main use category : Industrial use

Industrial/Professional use spec : Industrial
Test gas for smoke detectors

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

Siemens AG
Smart Infrastructure, Building Products, Customer Support
Otto-Hahn-Ring 6; D-81739 Munich; Germany
T +49 89 9221 8000 - F +49 89 636 720 000
mailto: fs.support.sbt@siemens.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
UNITED KINGDOM	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	844 892 0111 +44 121 507 4123
Österreich AUSTRIA	Vergiftungsinformationszentrale (Poisons Information Centre)	Gesundheit österreich GmbH Stubenring 6 A-1010 Wien	+43 1 406 43 43
Deutschland GERMANY	Vergiftungs-Informations-Zentrale Zentrum fur Kinderheilkunde und Jugendmedizin	Mathildenstrasse 1 D-79106 Freiburg	+49 761 19240
Schweiz SWITZERLAND	Schweizerisches Toxikologisches Informationszentrum Centre Suisse d'Information Toxicologique, Centro Svizzero d'informazione toxxicolica	Freiestrasse 16 Postfach CH-8028 Zurich	145 (24 h) from abroad: +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, Category 1 H222;H229

Full text of H-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 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

Extra phrases : Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C

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. Contact with the product may cause cold burns or frostbite.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	REACH registration No.	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
isobutane	(CAS No) 75-28-5 (EC no) 200-857-2 (EC index no) 601-004-00-0	01-2119485395-27	>= 50	Flam. Gas 1, H220 Press. Gas
propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5	01-2119486944-21	30 - 50	Flam. Gas 1, H220 Press. Gas

Full text of 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 : Dizziness. Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Contact with the liquefied gas may cause frostbite. Wash with plenty of soap and water.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Symptoms/injuries : If you feel unwell, seek medical advice.

Symptoms/injuries after inhalation : Dizziness.

Symptoms/injuries after skin contact : Frostbites.

Symptoms/injuries after eye contact : May cause frostbite.

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 aerosol.

Reactivity in case of fire : Containments may explode when heated.

Hazardous decomposition products in case of fire : Heat from fire may generate flammable vapour.

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.

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

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

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. Ventilate the area thoroughly.

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

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Use only with detector tester RE6. Use only in accordance with directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SIEMENS Test gas REF8-S		
Austria	Local name	Propan (R 290)
Austria	MAK (mg/m³)	1800 mg/m³
Austria	MAK (ppm)	1000 ppm
Austria	MAK Short time value (mg/m³)	3600 mg/m³
Austria	MAK Short time value (ppm)	2000 ppm
Germany	Local name	Propan
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	1800 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Switzerland	Local name	Propane
Switzerland	MAK (mg/m³)	1800 mg/m³
Switzerland	MAI (ppm)	1000 ppm
Switzerland	KZGW (mg/m³)	7200 mg/m³
Switzerland	KZGW (ppm)	4000 ppm

propane (74-98-6)		
Austria	Local name	Propan (R 290)
Austria	MAK (mg/m³)	1800 mg/m³
Austria	MAK (ppm)	1000 ppm
Austria	MAK Short time value (mg/m³)	3600 mg/m³
Austria	MAK Short time value (ppm)	2000 ppm
Germany	Local name	Propan
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	1800 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	Remark (TRGS 900)	DFG
Switzerland	Local name	Propane
Switzerland	MAK (mg/m³)	1800 mg/m³
Switzerland	MAK (ppm)	1000 ppm
Switzerland	KZGW (mg/m³)	7200 mg/m³
Switzerland	KZGW (ppm)	4000 ppm
Switzerland	Remark (CH)	Formal^{KT} - NIOSH
Switzerland	Regulatory reference	SUVA - Grenzwerte am Arbeitsplatz 2016

isobutane (75-28-5)		
Austria	Local name	Butan : Isobutan (R600a)
Austria	MAK (mg/m³)	1900 mg/m³
Austria	MAK (ppm)	800 ppm
Austria	MAK Short time value (mg/m³)	3800 mg/m³
Austria	MAK Short time value (ppm)	1600 ppm
Germany	Local name	Isobutan
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	2400 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Germany	TRGS 900 Limitation of exposure peaks	4(II)
Germany	Remark (TRGS 900)	DFG
Germany	Regulatory reference (TRGS900)	TRGS900
Switzerland	Local name	iso-Butan
Switzerland	MAK (mg/m³)	1900 mg/m³
Switzerland	MAK (ppm)	800 ppm
Switzerland	KZGW (mg/m³)	7600 mg/m³
Switzerland	KZGW (ppm)	3200 ppm
Switzerland	Remark (CH)	ZNS KT
Switzerland	Regulatory reference	SUVA - Grenzwerte am Arbeitsplatz 2016

8.2. Exposure controls

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Contact of refrigerant and/or packaging with skin may cause frostbite. Wear protective gloves.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Fluoro rubber (Viton)	6 (>480 min)		3 (> 0.65)	
	Nitrile rubber (NBR)	3 (> 60 min)		3 (> 0.65)	
	Butyl rubber	1 (> 10 min)		3 (> 0.65)	

Eye protection:

Contact with the liquefied gas may cause severe ocular lesions. Chemical goggles or safety glasses

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear appropriate mask

Device	Filter type	Condition	Standard
Gas mask	Type AX - Low-boiling (<65 °C) organic compounds, Type P3		

Other information:

Do not eat, drink or smoke during use. Do not pierce or burn, even after 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	:	Odourless.
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	:	-43°C
Flash point	:	< -80°C
Auto-ignition temperature	:	> 365°C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Flammable aerosol
Vapour pressure	:	11.4 bar 50°C
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Density	:	0.53 g/cm³ 20°C
Solubility	:	Material insoluble in water.
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	:	1.9 - 8.8 vol %

9.2. Other information

Additional information : Minimum test pressure (bar) 18 overpressure against atmospheric pressure
Aerosol can Leak Rate < 10 g/Jahr(Year)

SECTION 10: Stability and reactivity

10.1. Reactivity

Pressurised container. Protect from sunlight and do not expose to temperatures exceeding 50°C. May rupture closed container.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Keep away from sources of ignition - No smoking.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Not classified
Additional information No data available
Serious eye damage/irritation : Not classified
Additional information No data available
Respiratory or skin sensitisation : Not classified
Additional information No data available
Germ cell mutagenicity : Not classified
Additional information No data available
Carcinogenicity : Not classified
Additional information No data available
Reproductive toxicity : Not classified
Additional information No data available

STOT-single exposure : Not classified
Additional information No data available
STOT-repeated exposure : Not classified
Additional information No data available
Aspiration hazard : Not classified
Additional information No data available

SIEMENS Test gas REF8	
Vaporizer	Aerosol

Potential adverse human health effects and symptoms : No data available.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

SIEMENS Test gas REF8-S	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

SIEMENS Test gas REF8-S	
Bioaccumulative potential	Not established.

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.

Ecology - waste materials : Avoid release to the environment.

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) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

Transport document description (ADR) : UN 1950 AEROSOLS, 2.1, (D)

Transport document description (IMDG) : UN 1950 , 2

Transport document description (IATA) : UN 1950 , 2

Transport document description (ADN) : UN 1950 , 2

Transport document description (RID) : UN 1950 , 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

IATA

Transport hazard class(es) (IATA) : 2

ADN

Transport hazard class(es) (ADN) : 2

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

- Overland transport

Classification code (ADR)	: 5F
Special provisions (ADR)	: 190, 327, 344, 625
Limited quantities (ADR)	: 1l
Excepted quantities (ADR)	: E0
Transport category (ADR)	: 2
Tunnel restriction code (ADR)	: D

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available :

- Rail transport

No data available :

14.7. 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 specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:		
Section	**Changed item**	**Change**
-	Version, date of issue, replaces	changed
-	Reference SDS, EC	changed
1.3	Company unit, naming	changed
1.4	Austria, address	changed
3.2	Classification according to Directive 67/548/EEC	deleted
3.2	REACH registration No.	added
4.1	First-aid measures after ingestion	changed
8.1	Germany Limitation of exposure peaks	added
8.1	Switzerland VME, MAK, VLE, KZGW	changed
9.1	Auto-ignition temperature	geändert
16	Indication of changes	added

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 H- and EUH-phrases:

Flam. Gas 1	Flammable gases, Category 1
Press. Gas	Gases under pressure
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H229	Pressurised container: May burst if heated.

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