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

1.1. Product identifier

Trade name	GTS SPRAY - GTS MULTIAPP
Chemical description	Propane – Isobutane - Butane
CAS N°	-
CE N°	-
Index N°	-
Registration n°	-
Chemical formula	C ₃ H ₈ – iso-C ₄ H ₁₀ – C ₄ H ₁₀

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

Relevant identified uses	Industrial and professional Test gas/Calibration gas Laboratory use Chemical reaction / Synthesis Contact supplier for more information on uses
Uses advised against	Consumer use not recommended

1.3. Details of the supplier of the safety data sheet

Company identification	MULTIGAS Route de l'Industrie 102 CH-1564 Domdidier
Phone number	+41 (0) 26 676 94 94
E-mail address	info@multigas.ch

1.4. Emergency telephone numbers

145 (Toxicology Centre Zurich) or +41 (0) 44 251 51 51
+41 (0) 26 676 94 94 (Multigas)


SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical hazards	Flammable gases, Category 1	H220
	Gases under pressure : Liquefied gas	H280

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

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2.2. Label elements

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

Hazard pictograms



GHS02

GHS04

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
P381	In case of leakage, eliminate all ignition sources
P410+P403	Protect from sunlight. Store in a well-ventilated place


2.3. Other hazards

Contact with liquid may cause cold burns/frostbite

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Concentration	Classification
Propane	(CAS-No.) 74-98-6 (EC-No.) 200-827-9 (EC Index-No.) 601-003-00-5 (Registration-No.) 01-2119486944-21	0 - 100%	Flam. Gas 1, H220 Press. Gas (Liq.), H280
Isobutane	(CAS-No.) 75-28-5 (EC-No.) 200-857-2 (EC Index-No.) - (Registration-No.) 01-2119485395-27	0 - 100%	Flam. Gas 1, H220 Press. Gas (Liq.), H280
Butane	(CAS-No.) 106-97-8 (EC-No.) 203-448-7 (EC Index-No.) 601-004-00-0 (Registration-No.) -	0 - 100%	Flam. Gas 1, H220 Press. Gas (Liq.), H280

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1.3-Butadiène	(CAS-No.) 106-99-0 (EC-No.) 203-450-8 (EC Index-No.) - (Registration-No.) -	<0.1%	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Carc. 1A, H350 Mutag. 1B, H340
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For the complete H-sentences texts mentioned in that chapter, refer to Section 16

Contains no other components or impurities which will influence the classification of the product

3.2. Mixtures

Not established

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	See a doctor. Show this safety data sheet to the attending physician
In case of inhalation	In case of inhalation, remove the person from the contaminated area. In case of respiratory arrest, give artificial respiration. See a doctor
In case of skin contact	In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. See a doctor
In case of eyes contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor
In case of ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. See a doctor

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

Refer to section 11

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

No data available


SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	All known extinguishing agents can be used
Unsuitable extinguishing media	Do not use water jet to extinguish

5.2. Special hazards arising from the substance or mixture

Specific hazards	In case of fire or excessive heat, hazardous combustion products may be produced Exposure to fire may cause containers to rupture/explode
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Hazardous combustion products

In case of fire or excessive heat, hazardous combustion products may be produced such as : carbon oxides

5.3. Additional information

Cool endangered receptacles with water spray jet from a protected position

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Avoid breathing vapours, spray mists or gases
- Provide adequate ventilation
- Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous
- Evacuate personnel to a safe place
- Personal protective equipment, see section 8

6.2. Environmental precautions

Try to stop the leak

6.3. Methods and material for containment and cleaning up

Keep area evacuated and free from ignition sources until any spilled liquid has evaporated (ground free from frost)

6.4. Reference to other sections

See also sections 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling


- Avoid breathing vapour or mist
- Ensure adequate air ventilation
- Keep away from sources of ignition (including electrostatic charges)
- For precautions, see section 2.2

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place
Content under pressure

7.3. Specific end use(s)

None

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SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Propane	74-98-6	TWA	1'000 ppm	SUVA: Limit values of exposure to workstations
			1'800 mg/m ³	
		OEL	4'000 ppm	SUVA: Limit values of exposure to workstations
			7'200 mg/m ³	
Isobutane	75-28-5	TWA	800 ppm	SUVA: Limit values of exposure to workstations
			1'900 mg/m ³	
		OEL	3'200 ppm	SUVA: Limit values of exposure to workstations
			7'600 mg/m ³	
Butane	106-97-8	TWA	800 ppm	SUVA: Limit values of exposure to workstations
			1'900 mg/m ³	
		OEL	3'200 ppm	SUVA: Limit values of exposure to workstations
			7'600 mg/m ³	
1.3-Butadiène	106-99-0	TWA	2 ppm	SUVA: Limit values of exposure to workstations
			4.4 mg/m ³	
		OEL	-	SUVA: Limit values of exposure to workstations
			-	

8.2. Exposure controls
8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation

Gas detectors should be used when flammable / toxic gases / vapours are likely to be released

8.2.2. Individual protection measures, e.g. personal protective equipment
Eye/face protection

Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166

Skin / hand protection

Wear protective gloves The selected protective gloves have to satisfy the specifications of EU Directive 89/686 / EEC and the standard EN 374 derived from it

For short-term use

Material: Nitrile rubber or PVC

Penetration time: 60 min

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Glove thickness: 0.4 mm

For long-term use

Material: Nitrile rubber or PVC

Penetration time: >480 min

Glove thickness: 0.7 mm

Have appropriate, chemical-resistant protective clothing ready for use in emergencies. Norm EN943-1

Respiratory protection

Self-contained breathing apparatus (SCBA) or positive pressure air mask must be used in oxygenated atmospheres. Standard EN 137 - Self-contained compressed air device with a full face mask

8.2.3. Environmental exposure controls

-

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Appearance

- **Physical state at 20°C / 101.3kPa** Gas
- **Colour** Colourless

Odour No data available

Odour threshold No data available

pH No data available

Melting point / Freezing point -187°C to -138°C (Function of composition)

Boiling point -42°C to -0.5°C (Function of composition)

Flash point -104°C to -60°C (enclosed cup) (Function of composition)

Evaporation rate No data available

Flammability (solid, gas) Extremely flammable gas

Explosive limits 1.86% to 9.5% (Function of composition)

Vapour pressure [20°C] No data available

Vapour pressure [40°C] ≤ 15.5 bars (Function of composition)

Vapour density No data available

Relative density, liquid (water=1) No data available

Relative density, gas (air=1) No data available


Water solubility 24.4 to 60.4 mg/l (Function of composition)

Partition coefficient No data available

n-octanol/water (Log Kow)
Auto-ignition temperature 287°C to 537°C (Function of composition)

Decomposition temperature No data available

Viscosity No data available

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Explosive properties No data available

Oxidising properties No data available

9.2. Other information

Molar mass No data available

Critical temperature [°C] No data available

Relative vapour density No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below

10.2. Chemical stability

Stable under recommended storage conditions

10.3. Possibility of hazardous reactions

Can form explosive mixture with air

May react violently with oxidants

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking

10.5. Incompatible materials

Strong oxidisers

For additional information on compatibility refer to ISO 11114

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Chemical safety assessment

Acute toxicity No data available

Skin corrosion/irritation No adverse effects expected with this product

Serious eye damage/irritation No adverse effects expected with this product

Respiratory or skin sensitisation No data available

Germ cell mutagenicity No data available

Carcinogenicity No data available

Reproductive toxicity No data available

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STOT-single exposure – Target organ(s)	No data available
STOT-repeated exposure	No data available
Ingestion hazard	No data available

SECTION 12: Ecological information

12.1. Toxicity

Assessment No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

PBT / vPvB assessment is not available because the chemical safety assessment is not required / is not conducted

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	Must not be released into the atmosphere Burn in a chemical incinerator equipped with an afterburner and scrubber Return to the supplier the product not consumed in its original container
Contaminated container	Eliminate as unused product Contact the supplier if instructions are needed
OMoD Code	16 05 04 Gases in pressure containers (including halon) containing dangerous substances

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SECTION 14: Transport information

14.1. UN number

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
1965	1965	1965

14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
Hydrocarbon gas mixture, liquified N.O.S (Propane, Butane)	HYDROCARBON GAS MIXTURE, LIQUIFIED N.O.S (Propane, Butane)	HYDROCARBON GAS MIXTURE, LIQUIFIED N.O.S (Propane, Butane)

14.3. Transport hazard class(es)

Labelling



ADR/RID
 IMDG
 IATA

2.1 : Flammable gases

14.4. Packing group

ADR/RID
 IMDG
 IATA

Not established

14.5. Environmental hazards

ADR/RID

None

IMDG

None

ICAO-TI / IATA-DGR


None

14.6. Special precautions for user

No data available

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

Not applicable

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SECTION 15: Regulatory information

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

This safety data sheet complies with the requirements of Regulation (CE) No. 1907/2006

15.2. Chemical safety assessment

A Chemical Risk Assessment (CSA) has not been completed for this product

SECTION 16: Other information


Indication of changes	Revised safety data sheet in accordance with commission regulation (EU) No 2015/830
Abbreviations and acronyms	<p>ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road</p> <p>CAS : Chemical Abstract Service number (USA)</p> <p>CLP : Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008</p> <p>CSA : Chemical Safety Assessment</p> <p>EIGA : European Industrial Gases Association</p> <p>EINECS : European Inventory of Existing Commercial Chemical Substances</p> <p>EN : European Standard</p> <p>ATE : Acute Toxicity Estimate</p> <p>IATA : International Air Transport Association</p> <p>IMDG Code : International Maritime Dangerous Goods Code</p> <p>LC50 : Lethal Concentration to 50 % of a test population</p> <p>OMoD : Swiss Ordinance on the movement of waste</p> <p>PBT : Persistent, Bioaccumulative and Toxic</p> <p>PPE: Personal Protection Equipment</p> <p>REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006</p> <p>RID : Regulations concerning the international carriage of dangerous goods by rail</p> <p>RMM : Risk Management Measures</p> <p>STOT-SE : Specific Target Organ Toxicity - Single Exposure</p> <p>UN : United Nations</p> <p>vPvB : Very Persistent and Very Bioaccumulative</p> <p>WGK: Water Hazards Class</p>

Full text of H, EUH and P statements used in sections 2 and 3

Hazard statements

H220

Extremely flammable gas

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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

P381 In case of leakage, eliminate all ignition sources

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

Disclaimer of liability

Details given in this document have been prepared based on the most available reliable documents and are believed to be correct at the time of going to press

They do not claim to be exhaustive and should be considered as a guide