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

1.1. Product identifier

Trade name	Sulphur hexafluoride - used
Chemical description	Sulphur hexafluoride - used
CAS N°	-
CE N°	-
Index N°	--
Registration n°	-
Chemical formula	SF ₆ ; (Degradation product : HF ; SOF ₂ ; S2F ₁₀)

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

Relevant identified uses	Recovery 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]

Hazards	Gases under pressure : Liquefied gas	H280
	Acute toxicity (by ingestion), category 3	H301
	Acute toxicity (dermal), category 4	H312
	Skin irritation, category 2	H315
	Serious eye damage, category 1	H318

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Acute toxicity (inhalation), category 4

H332

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


2.2. Label elements

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

Hazard pictograms	  
	GHS04 GHS05 GHS06
Signal word	Danger
Hazard statements	
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H312+H332	Harmful in contact with skin. Harmful if inhaled
H315	Causes skin irritation
H318	Causes serious eye damage
Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352+P315	IF ON SKIN: Wash with plenty of soap and water. Get immediate medical advice/attention
P304+P340+P315	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention
P305+P351+P338 +P315	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention
P410+P403	Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

Causes asphyxiation at high concentrations
Contains one or more fluorinated greenhouse gases
A powerful liberator of hydrogen fluoride

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Concentration	Classification
Sulphur hexafluoride	(CAS-No.) 2551-62-4 (EC-No.) 219-854-2 (Index-No.) --- (Registration-No.) 01-2119458769-17	>= 95 - < 99 %	Press. Gas (Liq.), H280
Thionyl fluoride	(CAS-No.) 7783-42-8 (EC-No.) 231-997-2 (Index-No.) 100-029-088 (Registration-No.) -	>= 1 - < 3%	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314
Disulphur decafluoride	(CAS-No.) 5714-22-7 (EC-No.) 231-195-2 (Index-No.) 016-011-00-9 (Registration-No.) -	>= 1 - < 3%	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314
Hydrogen fluoride	(CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (Index-No.) 009-002-00-6 (Registration-No.) 01-2119458860-33	>= 0.1 - < 0.3%	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:gas), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318

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	Remove contaminated clothing and shoes immediately. Wash with soap and plenty of water. Take victim immediately to hospital. 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

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

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
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	Water spray or water mist. Dry powder. Foam
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
Hazardous combustion products	In case of fire or excessive heat, hazardous combustion products may be produced such as : hydrogen fluoride, sulphur dioxide

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
Evacuate personnel to a safe place.
Personal protective equipment, see section 8

6.2. Environmental precautions


No data available

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

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Avoid breathing vapour or mist
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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Sulphur hexafluoride	2551-62-4	TWA	1'000 ppm	SUVA: Limit values of exposure to workstations
			6'000 mg/m ³	
		OEL	-	No occupational exposure limit value
			-	
Thionyl fluoride	7446-09-05	VME	-	No occupational exposure limit value
			-	
		VLE	-	No occupational exposure limit value
			-	
Disulphur decafluoride	5714-22-7	VME	0.1 ppm	SUVA: Limit values of exposure to workstations
			0.7 mg/m ³	
		VLE	0.01 ppm	SUVA: Limit values of exposure to workstations
			0.1 mg/m ³	
Hydrogen fluoride	7664-39-3	VME	1 ppm	SUVA: Limit values of exposure to workstations
			0.83 mg/m ³	
		VLE	2 ppm	SUVA: Limit values of exposure to workstations
			1.66 mg/m ³	

8.2. Exposure controls

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8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation
Gas detectors should be used when toxic gases may be released

8.2.2. Individual protection measures, e.g. personal protective equipment

Eye/face protection

Wear goggles and a face shield, standard EN 166

Skin / hand protection

Wear protective gloves when handling gas cylinders. Standard EN 388- Protective gloves against mechanical hazards
Wear cold insulating gloves when transferring or disconnecting transfer lines Standard EN 511 - Insulating gloves against cold
Wearing chemical resistant gloves Standard EN 374-Protective gloves against chemicals

For short-term use

Material: Chloroprene rubber
Penetration time:> 30 min
Glove thickness: 0.4 mm

For long-term use

Material: Fluoroelastomer
Penetration time:> 480 min
Glove thickness: 0.7 mm

Have appropriate, chemical-resistant protective clothing ready for use in emergencies. Standard 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 Pungent

Odour threshold No data available

pH No data available

Melting point / Freezing point -50.8°C (For SF₆)

Boiling point -64°C (For SF₆)

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Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Vapour pressure [20°C]	21 bar (For SF ₆)
Vapour pressure [50°C]	No data available
Vapour density	No data available
Relative density, liquid (water=1)	No data available
Relative density, gas (air=1)	5.04 (For SF ₆)
Water solubility	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

Molar mass	146 g/mole (For SF ₆)
Critical temperature [°C]	45.5°C (For SF ₆)
Relative density, gas	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

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

No data available

10.4. Conditions to avoid

Heat

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10.5. Incompatible materials

None

For additional information on compatibility refer to ISO 11114

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: oxides of sulphur, hydrogen fluoride

SECTION 11: Toxicological information

11.1. Chemical safety assessment

Acute toxicity	Toxic if swallowed
Skin corrosion/irritation	Harmful by skin contact
Acute inhalation toxicity	Harmful by inhalation
Serious eye damage/irritation	Risk of serious eye damage
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
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	Acute toxicity to fish
-------------------	------------------------

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

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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

Contains fluorinated greenhouse gases.

When discharged in large quantities may contribute to the greenhouse effect

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

14.1. UN number

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
3308	3308	3308

14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (Sulphur hexafluoride, Hydrofluoric acid)	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (Sulphur hexafluoride, Hydrofluoric acid)	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (Sulphur hexafluoride, Hydrofluoric acid)


14.3. Transport hazard class(es)

Labelling



ADR/RID
IMDG
IATA

2.3: Toxic gases
8: Corrosive substance

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14.4. Packing group

ADR/RID IMDG IATA	Not established
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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

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

No CSA has been carried out

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>

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LC50 :	Lethal Concentration to 50 % of a test population
OMoD :	Swiss Ordinance on the movement of waste
PBT :	Persistent, Bioaccumulative and Toxic
PPE:	Personal Protection Equipment
REACH :	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID :	Regulations concerning the international carriage of dangerous goods by rail
RMM :	Risk Management Measures
STOT-SE :	Specific Target Organ Toxicity - Single Exposure
UN :	United Nations
vPvB :	Very Persistent and Very Bioaccumulative
WGK:	Water Hazards Class

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

Hazard statements

H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H312+H332	Harmful in contact with skin. Harmful if inhaled
H315	Causes skin irritation
H318	Causes serious eye damage

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352+P315	IF ON SKIN: Wash with plenty of soap and water. Get immediate medical advice/attention
P304+P340+P315	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention
P305+P351+P338 +P315	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention
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