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Fluor 1% - Krypton 1.25% - Neon 97.75%		MTG 

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

1.1. Product identifier

Trade name	Fluor 1% - Krypton 1.25% - Neon 97.75%
Chemical description	Fluor - Krypton - Neon
CAS N°	-
CE N°	-
Index N°	-
Registration n°	Listed in Annex IV / V REACH, exempted from registration
Chemical formula	F ₂ , Kr, Ne

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 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 Oxidizing gases Cat. 1

H270

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Gases under pressure : Compressed gas	H280
Skin irritation Cat. 2	H315
Serious eye irritation Cat. 2	H319
Acute toxicity (Inhalation - gas) Cat. 4	H332
Specific Target Organ Toxicity - Single Exposure Cat. 3	H335

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



GHS03

GHS04

GHS07

Signal word

Hazard statements


	Danger
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation

Precautionary statements

P244	Keep valves and fittings free from oil and grease
P260	Do not breathe gas/vapors
P280	Wear protective gloves/protective clothing/eye protection/face protection
P332+P313	If skin irritation occurs: Get medical advice/attention
P304+P340+P315	IF INHALED: Remove person to fresh air and keep 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+403	Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

None

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Concentration	Classification
Krypton	(CAS-No.) 7439-90-9 (EC-No.) 231-098-5 (EC Index-No.) --- (Registration-No.) -	1.25%	Press. Gas (Comp.), H280
Neon	(CAS-No.) 7440-01-9 (EC-No.) 231-110-9 (EC Index-No.) --- (Registration-No.) --	97.75%	Press. Gas (Comp.), H280
Fluor	(CAS-No.) 14762-94-8 (EC-No.) - (EC Index-No.) --- (Registration-No.) 01-2120759325-50	1%	Oxid. Gas 1, H270 Skin Corr. 1A, H314 Eye Dam. 1, H318 Compr. Gas, H280 Acute Tox. 1, H330

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	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available
In case of eyes contact	Make sure to remove any contact lenses from the eyes before rinsing. Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes. Alternatively irrigate eyes intermittently for 20 minutes with an aqueous Calcium gluconate 1% solution if available. Get medical advice/attention and take along these instructions

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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

Irritating to eyes, respiratory system and skin. May be harmful if inhaled
 Refer to section 11

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

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray or water mist. Dry powder. Carbon dioxide. Foam
Unsuitable extinguishing media No data available

5.2. Special hazards arising from the substance or mixture

Specific hazards Exposure to fire may cause containers to rupture/explode
Hazardous combustion products Fire or excessive heat may produce hazardous decomposition products

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

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6.3. Methods and material for containment and cleaning up

Provide adequate ventilation. Wash contaminated equipment or sites of leaks with copious quantities of water

6.4. Reference to other sections

See also sections 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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
Krypton	7439-90-9	TWA	-	No occupational exposure limit value
			-	
		OEL	-	
			-	
Neon	7440-01-9	TWA	-	No occupational exposure limit value
			-	
		OEL	-	
			-	
Fluor	14762-94-8	TWA	0.1 ppm	SUVA: Exposure limit values at workplaces (2021)
			0.15 mg/m ³	
		OEL	0.2 ppm	
			0.3 mg/m ³	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation
 Oxygen detectors must be used when asphyxiating gases can be released

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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 when handling gas cylinders. Standard EN 388- Protective gloves against mechanical hazards
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

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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** Kr and Ne colourless, F₂ Pale yellow

Odour No data available

Odour threshold No data available

pH No data available

Melting point / Freezing point No data available

Boiling point No data available

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] No data available

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) No data available

Water solubility No data available

Partition coefficient No data available

n-octanol/water (Log Kow)

Auto-ignition temperature No data available

Decomposition temperature No data available

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Viscosity	No data available
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 density, gas	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

Violently oxidises organic material. May react violently with combustible materials. May react violently with reducing agents

10.4. Conditions to avoid

Avoid moisture in the installation

10.5. Incompatible materials

Moisture. Combustible materials Reducing agents
For more information on compatibility, refer to ISO 11114

10.6. Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1. Chemical safety assessment

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/irritation	Causes serious eye irritation
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

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Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure – Target organ(s)	May cause respiratory irritation
STOT-repeated exposure	Based on available data, the classification criteria are not met
Inhalation hazard	Harmful by inhalation

SECTION 12: Ecological information

12.1. Toxicity

Assessment No ecological damage caused by this product

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 cleaning system
Contaminated container	Return unused product in original cylinder to supplier
OMoD Code	16 05 04 Gases in pressure containers (including halons) containing hazardous 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
3156	3156	3156

14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
COMPRESSED GAS, OXIDIZING, N.O.S.(Fluor, Neon, Krypton)	COMPRESSED GAS, OXIDIZING, N.O.S.(Fluor, Neon, Krypton)	Compressed gas, oxidizing, n.o.s. (Fluor, Neon, Krypton)

14.3. Transport hazard class(es)

Labelling



ADR/RID
 IMDG
 IATA

2.2 : Non-flammable, non-toxic gases
 5.1 : Oxidising substances

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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- H280 Contains gas under pressure; may explode if heated
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H335 May cause respiratory irritation

Precautionary statements

- P244 Keep valves and fittings free from oil and grease
- P260 Do not breathe gas/vapors
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P332+P313 If skin irritation occurs: Get medical advice/attention
- P304+P340+P315 IF INHALED: Remove person to fresh air and keep 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+403 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