

**Trade name:** AirPlus ZX

**Current version :** 3.0.1, issued: 04.09.2019

**Replaced version:** 3.0.0, issued: 22.08.2019

**Region:** GB

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

### 1.1 Product identifier

**Trade name**

**AirPlus ZX**

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

**Relevant identified uses of the substance or mixture**

Insulating gas in gas-insulated electrical switchgear (GIS)  
 Arc quenching medium in gas switches (circuit breaker and load break switches)  
 Use in gas-insulated lines (GIL) or gas-insulated transformers (GIT)

**Uses advised against**

No data available.

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

**Address**

ABB AG  
 Oberhausener Straße 33  
 40472 Ratingen  
 Deutschland

Telephone no. +49 (0) 2102 12-0  
 Fax no. +49 (0) 2102 12-1777  
 e-mail de-info.sdb@abb.com

**Advice on Safety Data Sheet**

sdb\_info@umco.de

### 1.4 Emergency telephone number

For medical advice (in German and English):  
 +49 (0)551 192 40 (Giftinformationszentrum Nord)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification information**

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).

### 2.2 Label elements

Not relevant

### 2.3 Other hazards

PBT assessment  
 The product is not considered to be a PBT.  
 vPvB assessment  
 The product is not considered to be a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable. The product is not a substance.

### 3.2 Mixtures

**Hazardous ingredients**

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration %
1	nitrogen		

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	7727-37-9 231-783-9 - -	Press. Gas; H280	>= 50.00 - < 70.00	Vol%
2	<b>oxygen</b>			
	7782-44-7 231-956-9 008-001-00-8 -	Ox. Gas 1; H270 Press. Gas	>= 10.00 - < 25.00	Vol%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
2	U	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

#### Additional ingredients

No	Substance name	Additional information
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)
		Concentration
		%
1	<b>1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one</b>	
	756-12-7 690-995-3 - 01-2120052367-56	>= 10.00 - < 25.00
		Vol%

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Remove affected person from danger area, lay him down. In case of persisting adverse effects, consult a physician.

#### After inhalation

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of persisting adverse effects consult a physician.

#### After skin contact

Wash off with soap and water.

#### After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

#### After ingestion

Rinse mouth thoroughly with water.

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

No data available.

### 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

Extinguishing measures to suit surroundings.

#### Unsuitable extinguishing media

Not relevant

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

In the event of fire, the following can be released: Carbon monoxide and carbon dioxide; Hydrogen fluoride (HF)

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## 5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation.

#### For emergency responders

Personal protective equipment (PPE) - see Section 8.

### 6.2 Environmental precautions

No special measures necessary.

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

Ensure adequate ventilation. Room ventilation via exhaust system.

### 6.4 Reference to other sections

Information regarding safe handling, see chapter 7. Information regarding personal protective measures, see chapter 8. Information regarding waste disposal, see chapter 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Only qualified and trained persons are authorised to handle. Provide good ventilation at the work area (local exhaust ventilation, if necessary).

#### General protective and hygiene measures

Wash hands before breaks and after work. Do not inhale gases. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages.

#### Advice on protection against fire and explosion

Pay attention to general rules of internal fire prevention.

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

#### Technical measures and storage conditions

No special measures necessary.

#### Requirements for storage rooms and vessels

No special measures required.

#### Incompatible products

None known

### 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

No parameters available for monitoring.

#### Other information

Chemical name:

1,1,1,3,4,4,4-Heptafluoro-3-(trifluoromethyl)butan-2-on

CAS No.:

756-12-7

Maximum Allowable Concentration (MAC)

225ppm (8h)

Source:

ECHA

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## 8.2 Exposure controls

### Appropriate engineering controls

No data available.

### Personal protective equipment

#### Respiratory protection

No special measures required.

#### Eye / face protection

No special measures required.

#### Hand protection

No special measures required.

### Environmental exposure controls

No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form/Colour</b>	
gas type	
<b>Odour</b>	
No data available	
<b>Odour threshold</b>	
No data available	
<b>pH value</b>	
Not relevant	
<b>Boiling point / boiling range</b>	
Value	26.9 °C
Reference substance	CAS 756-12-7
Source	supplier
<b>Melting point / melting range</b>	
Value	< -80 °C
Reference substance	CAS 756-12-7
Source	supplier
<b>Decomposition point / decomposition range</b>	
Not applicable	
Source	supplier
<b>Flash point</b>	
Source	supplier
<b>Auto-ignition temperature</b>	
Source	supplier
Comments	Product is not selfigniting.
<b>Oxidising properties</b>	
Not applicable	
<b>Explosive properties</b>	
Product does not present an explosion hazard.	
<b>Flammability (solid, gas)</b>	
not flammable	
Source	supplier
<b>Lower flammability or explosive limits</b>	
Not applicable	
<b>Upper flammability or explosive limits</b>	

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Not applicable

Vapour pressure	
Value	94.3 kPa
Reference temperature	25 °C
Reference substance	CAS 756-12-7
Source	supplier

Vapour density	
Value	9.2
Reference substance	CAS 756-12-7
Source	supplier

Evaporation rate	
Value	> 50
Reference substance	CAS 756-12-7
Source	supplier

Relative density	
Value	1.561
Reference substance	CAS 756-12-7
Source	supplier

Density	
Value	1.561 g/ml
Reference temperature	20 °C
Reference substance	CAS 756-12-7
Source	supplier

**Solubility in water**  
Not applicable

**Solubility(ies)**  
Not applicable

Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
log Pow with reference to Method		1.82	
Source		CAS 756-12-7 QSAR ECHA	

Viscosity	
Value	0.41 mm <sup>2</sup> /s
Reference temperature	0 °C
Type	kinematic
Reference substance	CAS 756-12-7
Source	supplier

## 9.2 Other information

**Other information**  
No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

### 10.3 Possibility of hazardous reactions

No dangerous reactions known.

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## 10.4 Conditions to avoid

None known

## 10.5 Incompatible materials

None known.

## 10.6 Hazardous decomposition products

No data available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 425		
Source	ECHA		

Acute dermal toxicity			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 402		
Source	ECHA		

Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
LC50	148	- 213	mg/l
Duration of exposure		4	h
State of aggregation	Vapour		
Species	rat		
Method	OECD 403		
Source	ECHA		

Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
Method	OECD 405		
Source	ECHA		
Evaluation	non-irritant		

Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
Route of exposure	Skin		
Species	mouse		

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Method	OECD 429
Source	ECHA
Evaluation	non-sensitizing

<b>Germ cell mutagenicity</b>
No data available

<b>Reproduction toxicity</b>
No data available

<b>Carcinogenicity</b>
No data available

<b>STOT - single exposure</b>
No data available

<b>STOT - repeated exposure</b>			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
Route of exposure		inhalational	
NOAEC		3000	ppm
Duration of exposure		6	h
Species		rats (male/female)	
Method		OECD 412	
Source		ECHA	

<b>Aspiration hazard</b>
No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Toxicity to fish (acute)</b>
No data available

<b>Toxicity to fish (chronic)</b>
No data available

<b>Toxicity to Daphnia (acute)</b>			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
EC50		39	mg/l
Duration of exposure		48	h
Species		Daphnia magna	
Method		OECD 202	
Source		ECHA	

<b>Toxicity to Daphnia (chronic)</b>
No data available

<b>Toxicity to algae (acute)</b>
No data available

<b>Toxicity to algae (chronic)</b>			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
EC50		98	mg/l
Duration of exposure		72	h
Species		Pseudokirchneriella subcapitata	
Method		OECD 201	
Source		ECHA	

<b>Bacteria toxicity</b>
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No data available

**12.2 Persistence and degradability**

Biodegradability			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
Type		aerobic biodegradation	
Value		appr. 0	%
Duration		28	day(s)
Method		OECD 301 D	
Source		ECHA	
Evaluation		not readily biodegradable	

**12.3 Bioaccumulative potential**

Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one	756-12-7	690-995-3
log Pow		1.82	
with reference to		CAS 756-12-7	
Method		QSAR	
Source		ECHA	

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

**12.6 Other adverse effects**

No data available.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Dispose of according to all applicable regulations upon consultation of the local competent authorities and the disposer in a suitable and authorised disposal facility.

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

**SECTION 14: Transport information****14.1 Transport ADR/RID/ADN**

The product is not subject to ADR/RID/ADN regulations.

**14.2 Transport IMDG**

The product is not subject to IMDG regulations.

**14.3 Transport ICAO-TI / IATA**

The product is not subject to ICAO-TI / IATA regulations.

**14.4 Other information**

No data available.

**14.5 Environmental hazards**



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Information on environmental hazards, if relevant, please see 14.1 - 14.3.

## 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 relevant

## SECTION 15: Regulatory information

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

#### EU regulations

##### **Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

##### **REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

##### **Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances requiring authorisation as listed on Annex XVII of the REACH regulation (EC) 1907/2006.

##### **Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is not subject to Part 1 or 2 of Annex I.

### 15.2 Chemical safety assessment

A chemical safety assessment has been carried out for the following substance/s in this mixture:

CAS no.	756-12-7
EC no.	690-995-3

## SECTION 16: Other information

#### **Sources of key data used to compile the data sheet:**

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

#### **Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)**

H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.

#### **Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)**

U	When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.
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#### **Department issuing safety data sheet**

UMCO GmbH

Georg-Wilhelm-Str. 187, D-21107 Hamburg

Tel.: +49 40 / 555 546 300 Fax: +49 40 / 555 546 357 e-mail: umco@umco.de

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This information is based on our present knowledge and experience.  
The safety data sheet describes products with a view to safety requirements.  
It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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