

Trade name: AirPlus Service

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 Service

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 in accordance with Regulation (EC) No 1272/2008 (CLP)

Press. Gas compr.; H280

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

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

Hazard pictograms



GHS04

Signal word

Warning

Hazard statement(s)

H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s)

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

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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			
	7727-37-9 231-783-9 - -	Press. Gas; H280	>= 50.00 - < 70.00	Vol%
2	oxygen			
	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	1,1,1,3,4,4,4-heptafluoro-3-(trifluoromethyl)butan-2-one			
	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

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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

Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Unsuitable extinguishing media

Not relevant

5.2 Special hazards arising from the substance or mixture

In case of fire: danger of pressure build up, which could result in container rupture. In the event of fire, the following can be released: Carbon monoxide and carbon dioxide; Hydrogen fluoride (HF)

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit. Containers close to fire should be transferred to a safe place. Cool closed containers exposed to fire with water.

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. Heating up leads to increase of pressure - danger of bursting.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

No special measures necessary.

Requirements for storage rooms and vessels

Protect from heat and direct sunlight.

Incompatible products

None known

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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

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

Form/Colour	
gas type	
Odour	
No data available	
Odour threshold	
No data available	
pH value	
Not relevant	
Boiling point / boiling range	
Value	26.9 °C
Reference substance	CAS 756-12-7
Source	supplier
Melting point / melting range	
Value	< -80 °C
Reference substance	CAS 756-12-7
Source	supplier
Decomposition point / decomposition range	
Not applicable	
Source	supplier

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Flash point			
Source	supplier		
Auto-ignition temperature			
Source	supplier		
Comments	Product is not selfigniting.		
Oxidising properties			
Not applicable			
Explosive properties			
Product does not present an explosion hazard.			
Flammability (solid, gas)			
not flammable			
Source	supplier		
Lower flammability or explosive limits			
Not applicable			
Upper flammability or explosive limits			
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			

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Value	0.41	mm ² /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.

10.4 Conditions to avoid

Protect from heat and direct sunlight.

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.

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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	
Method		OECD 429	
Source		ECHA	
Evaluation		non-sensitizing	

Germ cell mutagenicity			
No data available			

Reproduction toxicity			
No data available			

Carcinogenicity			
No data available			

STOT - single exposure			
No data available			

STOT - repeated exposure			
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		appr.	3000 ppm
Duration of exposure		6	h
Species		rats (male/female)	
Method		OECD 412	
Source		ECHA	

Aspiration hazard			
No data available			

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No data available			

Toxicity to fish (chronic)			
No data available			

Toxicity to Daphnia (acute)			
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

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Species	Daphnia magna
Method	OECD 202
Source	ECHA

Toxicity to Daphnia (chronic)
No data available

Toxicity to algae (acute)
No data available

Toxicity to algae (chronic)			
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		

Bacteria toxicity
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.

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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

Class	2
Classification code	1A
Hazard identification no.	20
UN number	UN1956
Proper shipping name	COMPRESSED GAS, N.O.S.
Technical name	nitrogen oxygen
Tunnel restriction code	E
Label	2.2

14.2 Transport IMDG

Class	2.2
UN number	UN1956
Proper shipping name	COMPRESSED GAS, N.O.S.
Technical name	nitrogen oxygen
EmS	F-C, S-V
Label	2.2

14.3 Transport ICAO-TI / IATA

Class	2.2
UN number	UN1956
Proper shipping name	Compressed gas, n.o.s.
Technical name	nitrogen oxygen
Label	2.2

14.4 Other information

No data available.

14.5 Environmental hazards

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

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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.

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.

Department issuing safety data sheet

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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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Prod-ID 683672