

Trade name: R 444A

Current version: 2.0.0, Revision: 29.06.2026

Replaced version: 1.0.0, Revision: 06.10.2025

Region:
GER

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

1.1 Product identifier

Trade name

R 444A

UFI:

K46G-61AG-200A-C09V

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

Relevant identified uses of the substance or mixture

Industrial use

Professional use

Refrigerant

Uses advised against

Consumer use

1.3 Details of the supplier of the safety data sheet

Address

TEGA-Technische Gase und Gasetechnik GmbH

Werner-von-Siemens-Straße 18

97076 Würzburg

Telephone no. +49 931 2093-220

Fax no. +49 931 2093-180

e-mail kaeltemittel@tega.de

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)

Flam. Gas 1A; H220

Press. Gas liq.; 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



GHS02

Signal word

Danger

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H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s)

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

UFI:

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Supplemental label elements

Contains fluorinated greenhouse gases.

2.3 Other hazards

This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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	(1E)-1,3,3,3-tetrafluoroprop-1-ene		
	29118-24-9 471-480-0 - -	Press. Gas liq.; H280	83,00 Vol%
2	difluoromethane		
	75-10-5 200-839-4 - -	Flam. Gas 1B; H221 Press. Gas liq.; H280	12,00 Vol%
3	1,1-difluoroethane		
	75-37-6 200-866-1 - -	Flam. Gas 1A; H220 Press. Gas; H280	5,00 Vol%

Full text of H- and EUH-phrases, if not already mentioned in section 2.2: see section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove affected person from danger area, lay him down. Seek medical advice immediately.

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After inhalation

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Call a doctor immediately.

After skin contact

In case of contact with skin wash off immediately with soap and water. In case of frostbite, rinse with plenty of water. Do not remove clothing.

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 the mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms

Shortness of breath; Frostbite; respiratory arrest. Unconsciousness

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol resistant foam, CO₂, powders, water spray

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon oxides (CO_x); Fluorinated hydrocarbons; Hydrogen fluoride (HF); May explode if exposed to heat. Liquefied gas: Spilled liquid can cause cold burns. This gas is heavier than air and may accumulate in low areas.

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. Pressure increase, bursting and explosion hazard during heating. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

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. Keep away from ignition sources. Do not breathe gas. Cordon and mark contaminated area. Remove persons to safety. Risk of explosion.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Avoid release in the environment. Suppress gases/vapours/mists with water spray jet.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 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). To be used only according to instructions for use. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers heat or sources of ignition. In case of accidental release: danger due to low temperature of the liquid product. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Comply with the health and safety at work laws.

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. Provide eye wash fountain in work area. Have emergency shower available.

Advice on protection against fire and explosion

Vapours can form an explosive mixture with air. Isolate from sources of heat, sparks and open flame. Take precautionary measures against electrostatic loading (earthing necessary during loading operations). Use explosion-proof equipment/fittings and non-sparking tools. Electrical equipment should be protected to the appropriate standard.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Keep container tightly closed in a cool, well-ventilated place, open and handle carefully. Protect from heat and direct sunlight.

Recommended storage temperature

Value < 50 °C

Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original.

Incompatible products

Substances to be avoided, see section 10.

Storage Class according TRGS 510

2A Gases (except aerosol dispensers and lighters)

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
	TRGS 900		
	trans-1,3,3,3-Tetrafluorpropen		
	WEL long-term (8-hr TWA reference period)	4700	mg/m ³ 1000 ml/m ³
	Ceiling Limit	2 (II)	
	Notes	Y	

8.2 Exposure controls**Appropriate engineering controls**

Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment**Respiratory protection**

Self-contained breathing apparatus. In case of insufficient ventilation or long-term effect use breathing apparatus.

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Low-temperature-resistant gloves (EN 511). Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material

Leather

Other

Chemical-resistant work clothes. Fire-resistant antistatic protective clothing. Protective shoes.

Environmental exposure controls

No data available.

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

State of aggregation	
gas	
Form	
liquified gas	
Colour	
colourless	
Odour	
slightly like ether	
pH value	
Not applicable	
reason for missing pH	substance/mixture is a gas
Source	supplier
Boiling point / boiling range	
Value	-34,3 - -24,2 °C
Source	supplier
Melting point/freezing point	
No data available	
Decomposition temperature	
No data available	
Flash point	
No data available	
Ignition temperature	
No data available	
Flammability	
Extremely flammable gas.	
Source	supplier
Lower explosion limit	
No data available	
Upper explosion limit	
No data available	

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Vapour pressure			
Value	4474	mm Hg	
Reference temperature	20	°C	
Source	supplier		

Relative vapour density	
Value	3,7
Source	supplier

Relative density	
No data available	

Density			
Value	1,16	g/ml	
Reference temperature	20	°C	
Source	supplier		

Solubility in water	
Source	supplier
Comments	insoluble

Solubility	
No data available	

Soluble in	
Alcohols; esters; chlorinated solvents	

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
	log Pow	<= 3	
	Source	supplier	
2	difluoromethane	75-10-5	200-839-4
	log Pow	0,21	
	Source	supplier	
3	1,1-difluoroethane	75-37-6	200-866-1
	log Pow	< 3	
	Source	supplier	

Kinematic viscosity	
No data available	

Particle characteristics	
No data available	

9.2 Other information

Other information	
Vapours are heavier than air.	

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

Exothermic reactions are possible in the event of contact with incompatible substances. Risk of formation of explosive gas mixtures in air.

10.4 Conditions to avoid

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Heat, naked flames and other ignition sources. Extremes of temperatures.

10.5 Incompatible materials

Oxidizing agents; Reducing agents; Metals; strong bases; Epoxies; humidity

10.6 Hazardous decomposition products

None, if handled according to intended use. In case of fire: see section 5.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

No data available

Acute dermal toxicity

No data available

Acute inhalational toxicity

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
LC50	>	207000	ppmV
Duration of exposure		4	h
State of aggregation	Gas		
Species	rat		
Method	OECD 403		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	difluoromethane	75-10-5	200-839-4
LC50	>	520000	ppmV
Duration of exposure		4	h
State of aggregation	Gas		
Species	rat		
Method	OECD 403		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Skin corrosion/irritation

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Method	OECD 404		
Source	supplier		
Evaluation	non-irritant		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Serious eye damage/irritation

No data available

Respiratory or skin sensitisation

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Route of exposure	respiratory tract		
Source	supplier		
Evaluation	non-sensitizing		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	difluoromethane	75-10-5	200-839-4
Route of exposure	respiratory tract		
Species	mouse		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	1,1-difluoroethane	75-37-6	200-866-1
Route of exposure	respiratory tract		

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Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	
No	Substance name
CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene
29118-24-9	471-480-0
Type of examination	Genotoxicity in vitro
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
Duration of exposure	4 h
Type of examination	Genotoxicity in vivo
Species	mouse
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
2	difluoromethane
75-10-5	200-839-4
Type of examination	in vitro gene mutation study in bacteria
Species	Salmonella typhimurium / Escherichia coli
Method	OECD 471
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
Type of examination	In vivo mammalian somatic cell study: cytogenicity / erythrocyte micronucleus
Method	OECD 474
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
3	1,1-difluoroethane
75-37-6	200-866-1
Type of examination	in vitro gene mutation study in bacteria
Species	Salmonella typhimurium / Escherichia coli
Method	OECD 471
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
Type of examination	In vivo mammalian somatic cell study: cytogenicity / erythrocyte micronucleus
Method	OECD 474
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
Reproduction toxicity	
No	Substance name
CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene
29118-24-9	471-480-0
NOEL	20000 ppm
Type of examination	Two-Generation Reproduction Toxicity Study
Species	rat
Method	OECD 416
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
NOAEL	15000 ppm
Type of examination	Prenatal Developmental Toxicity Study
Method	OECD 414
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
2	difluoromethane
75-10-5	200-839-4
NOAEL	>= 50000 ppm
Type of examination	Prenatal Developmental Toxicity Study
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
3	1,1-difluoroethane
75-37-6	200-866-1
NOAEC	> 50000 ppm
Species	rat
Method	OECD 478

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Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.

Carcinogenicity			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Source		supplier	
Evaluation/classification		Based on available data, the classification criteria are not met.	
2	difluoromethane	75-10-5	200-839-4
Source		supplier	
Evaluation/classification		Based on available data, the classification criteria are not met.	
3	1,1-difluoroethane	75-37-6	200-866-1
Species		rat	
Method		OECD 453	
Source		supplier	
Evaluation/classification		Based on available data, the classification criteria are not met.	

STOT - single exposure	
No data available	

STOT - repeated exposure			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Route of exposure		inhalational	
NOAEL		5000	ppm
Duration of exposure		90	day(s)
Species		rat	
Method		OECD 413	
Source		supplier	
Evaluation/classification		Based on available data, the classification criteria are not met.	
2	difluoromethane	75-10-5	200-839-4
Route of exposure		inhalational	
NOAEC		>	50000 ppm
Duration of exposure		90	day(s)
Method		OECD 413	
Source		supplier	
Evaluation/classification		Based on available data, the classification criteria are not met.	
3	1,1-difluoroethane	75-37-6	200-866-1
Species		rat	
Method		OECD 453	
Evaluation/classification		Based on available data, the classification criteria are not met.	

Aspiration hazard	
No data available	

11.2 Information on other hazards

Endocrine disrupting properties	
No data available	

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
LC50		>	117 mg/l
Duration of exposure		96	h

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Species	fish
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
2	difluoromethane
	75-10-5
	200-839-4
LC50	1731 mg/l
Duration of exposure	96 h
Species	fish
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.
3	1,1-difluoroethane
	75-37-6
	200-866-1
LC50	719,61 mg/l
Duration of exposure	96 h
Species	fish
Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.

Toxicity to fish (chronic)

No data available

Toxicity to Daphnia (acute)

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
EC50	>	160 mg/l	
Duration of exposure		48 h	
Species	Daphnia magna		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	difluoromethane	75-10-5	200-839-4
EC50		833 mg/l	
Duration of exposure		48 h	
Species	Daphnia magna		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	1,1-difluoroethane	75-37-6	200-866-1
EC50		364,06 mg/l	
Duration of exposure		48 h	
Species	Daphnia magna		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Toxicity to Daphnia (chronic)

No data available

Toxicity to algae (acute)

No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
EC50		170 mg/l	
Duration of exposure		72 h	
Species	Algae		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	difluoromethane	75-10-5	200-839-4
EC50		313 mg/l	
Duration of exposure		96 h	
Species	Algae		
Source	supplier		
Evaluation/classification	Based on available data, the classification criteria are not met.		
3	1,1-difluoroethane	75-37-6	200-866-1
EC50		168,27 mg/l	
Duration of exposure		96 h	
Species	Algae		

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Source	supplier
Evaluation/classification	Based on available data, the classification criteria are not met.

Toxicity to algae (chronic)
No data available

Bacteria toxicity
No data available

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Type	aerobic biodegradation		
Method	OECD 301 D		
Source	supplier		
Evaluation	not readily biodegradable		
2	1,1-difluoroethane	75-37-6	200-866-1
Type	aerobic biodegradation		
Source	supplier		
Evaluation	not readily biodegradable		

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
log Pow	<= 3		
Source	supplier		
2	difluoromethane	75-10-5	200-839-4
log Pow	0,21		
Source	supplier		
3	1,1-difluoroethane	75-37-6	200-866-1
log Pow	< 3		
Source	supplier		

12.4 Mobility in soil

Mobility in soil			
No	Substance name	CAS no.	EC no.
1	(1E)-1,3,3,3-tetrafluoroprop-1-ene	29118-24-9	471-480-0
Source	supplier		
Evaluation/classification	immobile in the soil		
2	difluoromethane	75-10-5	200-839-4
Source	supplier		
Evaluation/classification	immobile in the soil		
3	1,1-difluoroethane	75-37-6	200-866-1
Source	supplier		
Evaluation/classification	low mobility		

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
Product Name	
R 444A	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.
Source	supplier

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects**Other adverse effects**

Global Warming Potential (GWP): 88

12.8 Other information**Other information**

Do not discharge into drains or waters and do not dispose of in public landfills.

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

dispose of in accordance with local regulation.

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

Compressed gas packaging under pressure. Do not open by force. Do not heat above 50°C. Dispose of compressed gas packagings only if completely discharged. Do not burn empty compressed gas packagings. Do not pierce, cut or weld uncleaned containers.

SECTION 14: Transport information**14.1 UN number or ID number****ADR/RID/ADN**

UN3161

IMDG

UN3161

ICAO-TI / IATA

UN3161

14.2 UN proper shipping name**ADR/RID/ADN**

Technical name

LIQUEFIED GAS, FLAMMABLE, N.O.S.
difluoromethane
1,1-difluoroethane**IMDG**

Technical name

LIQUEFIED GAS, FLAMMABLE, N.O.S.
difluoromethane
1,1-difluoroethane**ICAO-TI / IATA**

Technical name

Liquefied gas, flammable, n.o.s.
difluoromethane
1,1-difluoroethane**14.3 Transport hazard class(es)****ADR/RID/ADN - Class**

2

Label

2.1 RID:(+13)

Classification code

2F

Tunnel restriction code

B/D

Hazard identification no.

23

IMDG - Class

2.1

Label

2.1

ICAO-TI / IATA - Class

2.1

Label

2.1

14.4 Packing group**ADR/RID/ADN**

-

IMDG

-

ICAO-TI / IATA

-

14.5 Environmental hazards

EmS

F-D, S-U

14.6 Special precautions for user

To be transported always in closed, upright and safe containers. Make sure that persons handling these containers are aware of the rules of conduct in case of incident or spillage.

14.7 Maritime transport in bulk according to IMO instruments

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, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.	No 40
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Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category:	P2
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Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

National regulations**Water Hazard Class (Germany)**

Class

1

Source

Classification according to AwSV (Regulation on facilities for handling substances that are hazardous to water).

Other regulations

REGULATION (EU) No. 517/2014 on fluorinated greenhouse gases; Take into account: TRGS 510 "Storage of hazardous substances in non-stationary containers"

15.2 Chemical safety assessment

A Chemical Safety Assessment (CSA) is not required.

SECTION 16: Other information**Sources of key data used to compile the data sheet:**

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

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

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 section.

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

H221 Flammable gas.

Classification information

Trade name: R 444A

Current version: 2.0.0, Revision: 29.06.2026

Replaced version: 1.0.0, Revision: 06.10.2025

Region:
GER

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.

Creation of the safety data sheet

UMCO GmbH

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.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

This document is an English translation of the legally compliant safety data sheet of the region Germany. This document, including UFI and emergency telephone number, may only be used for placing on the market in the region Germany.

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