



## SAFETY DATA SHEET

### R410A

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577, as amended.  
Commission Regulation (EU) 2020/878 of 18 June 2020.  
According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

##### 1.1. Product identifier

Product name R410A

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

Identified uses Refrigerant.

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

Supplier Pront Soğutma Dış Ticaret LTD. ŞTİ.  
Acarlar Mahallesi 3. Cadde 15. Sokak No:29 T13/1  
Beykoz, İstanbul - Turkey

##### 1.4. Emergency telephone number

Emergency telephone +90 216 759 2396

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Press. Gas (Liq.) - H280

Health hazards Not Classified

Environmental hazards Not Classified

Additional information Classification (Regulation (EC) No. 1272/2008).

##### 2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H280 Contains gas under pressure; may explode if heated.

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

##### 2.3. Other hazards

No information available.

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures

Pentafluoroethane	40-60%
CAS number: 354-33-6	EC number: 206-557-8
<b>Classification</b>	
Press. Gas (Liq.) - H280	



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<b>Difluoromethane</b>	<b>40-60%</b>
CAS number: 75-10-5	EC number: 200-839-4
<b>Classification</b>	
Flam. Gas 1A - H220	
Press. Gas (Liq.) - H280	

The full text for all hazard statements is displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin contact</b>	Rinse with water. Remove contaminated clothing. Caution: Clothing may adhere to the skin in case of freeze burns. Thaw frosted parts with lukewarm water. Do not rub affected area. Get medical attention if symptoms are severe or persist after washing.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	May cause respiratory irritation.
<b>Ingestion</b>	Due to the physical nature of this product, it is unlikely that ingestion will occur.
<b>Skin contact</b>	No specific symptoms known.
<b>Eye contact</b>	No specific symptoms known. May be slightly irritating to eyes.

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

<b>Notes for the doctor</b>	Treat symptomatically.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	The product is not flammable. Extinguish with foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.



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

<b>Specific hazards</b>	Containers can burst violently or explode when heated, due to excessive pressure build-up.
<b>Hazardous combustion products</b>	Hydrogen fluoride (HF).

### 5.3. Advice for firefighters

<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
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<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.
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## SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.
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### 6.2. Environmental precautions

<b>Environmental precautions</b>	Exposure to aquatic environment unlikely. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
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### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
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### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

<b>Usage precautions</b>	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Provide adequate ventilation.
<b>Advice on general occupational hygiene</b>	Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.



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

**Storage precautions** Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Protect from sunlight. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent. Keep at temperature not exceeding 45°C.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure controls/Personal protection

### 8.1. Control parameters

#### Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 4240 mg/m<sup>3</sup>

#### Pentafluoroethane

Long-term exposure limit (8-hour TWA): WEL 2000 ppm

#### Difluoromethane

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 2200 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit.

**DNEL** Consumer - Inhalation; Long term systemic effects: 2476 mg/m<sup>3</sup>  
Workers - Inhalation; Long term systemic effects: 13936 mg/m<sup>3</sup>

#### *Pentafluoroethane (CAS: 354-33-6)*

**DNEL** Workers - Inhalation; systemic effects: 16 444 mg/m<sup>3</sup>  
Consumer - Inhalation; systemic effects: 1753 mg/m<sup>3</sup>

**PNEC** - Fresh water; 0,1 mg/l  
- Water, Intermittent release; 1 mg/l  
- Sediment (Freshwater); 0,6 mg/l

#### *Difluoromethane (CAS: 75-10-5)*

**DNEL** Workers - Inhalation; Long term systemic effects: 7035 mg/m<sup>3</sup>  
Consumer - Inhalation; Long term systemic effects: 750 mg/m<sup>3</sup>

**PNEC** Fresh water; 0,142 mg/l  
Sediment (Freshwater); 0,534 mg/kg

### 8.2. Exposure controls

#### Protective equipment





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<b>Appropriate engineering controls</b>	Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.
<b>Eye/face protection</b>	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment that provides appropriate eye and face protection should be worn. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
<b>Hand protection</b>	Wear leather gloves to prevent frostbite injuries from rapidly expanding gas when handling pressurized gas bottles.
<b>Other skin and body protection</b>	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
<b>Hygiene measures</b>	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
<b>Respiratory protection</b>	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'UKCA'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges suitable for intended use should be used. Half mask and quarter mask respirators with replaceable filter cartridges suitable for intended use should be used.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Liquefied gas
<b>Colour</b>	Clear. Colourless.
<b>Odour</b>	Slightly ethereal.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	-51.8 - -51.9°C
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapour pressure</b>	10880 mm Hg @ 20°C



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Vapour density	2.6 (Air = 1.0)
Relative density	Not available.
Density	1,09 g/cm <sup>3</sup> 20 °C
Bulk density	No information available.
Solubility(ies)	Insoluble in water.
Partition coefficient	log Pow: 1,48 @ 25°C (CAS No: 354-33-6) log Pow: 0.21 @ 25°C (CAS No: 75-10-5)
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	No information available.
Oxidising properties	No information available.

### 9.2. Other information

Volatile Organic compounds - VOCs	Not available.
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	See the other subsections of this section for further details.
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### 10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
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### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Can react violently if in contact with alkali metals and alkaline earth metals- sodium, potassium, barium.
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### 10.4. Conditions to avoid

Conditions to avoid	Incompatible materials. Keep away from heat, sparks and open flame.
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### 10.5. Incompatible materials

Materials to avoid	Finely divided magnesium Magnesium and alloys containing 2% magnesium.
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### 10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Hydrogen fluoride (HF).
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## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - oral	
Notes (oral LD <sub>50</sub> )	Based on available data the classification criteria are not met.



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### **Acute toxicity - dermal**

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

### **Acute toxicity - inhalation**

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met. Pentafluoroethane (CAS: 354-33-6) LC50 2910 mg/m<sup>3</sup>, 4 hour, Rat Difluoromethane /CAS: 75-10-5) LC50 >520000 mg/m<sup>3</sup>, 4 hour, Rat

### **Skin corrosion/irritation**

**Skin corrosion/irritation** Based on available data the classification criteria are not met.

### **Serious eye damage/irritation**

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

### **Respiratory sensitisation**

**Respiratory sensitisation** Based on available data the classification criteria are not met.

### **Skin sensitisation**

**Skin sensitisation** Based on available data the classification criteria are not met.

### **Germ cell mutagenicity**

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

### **Carcinogenicity**

**Carcinogenicity** Based on available data the classification criteria are not met.

### **IARC carcinogenicity**

None of the ingredients are listed or exempt.

### **Reproductive toxicity**

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

### **Reproductive toxicity - development**

Based on available data the classification criteria are not met.

### **Specific target organ toxicity - single exposure**

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### **Specific target organ toxicity - repeated exposure**

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

### **Aspiration hazard**

**Aspiration hazard** Not relevant. Gas.

### **General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

### **Inhalation**

May cause respiratory irritation.

### **Ingestion**

Due to the physical nature of this product, it is unlikely that ingestion will occur.

### **Skin contact**

No specific symptoms known.

### **Eye contact**

No specific symptoms known.

### **Route of exposure**

Inhalation Skin and/or eye contact

### **Target organs**

No specific target organs known.

### **11.2. Information on other hazards**

**Information on other hazards** No information available.



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### *Pentafluoroethane*

#### *Acute toxicity - inhalation*

**Notes (inhalation LC<sub>50</sub>)** LC50 > 800000 ppm, Inhalation, Rat

#### *Respiratory sensitisation*

#### **Respiratory sensitisation**

Cardiac Sensitization Threshold Species: Dogs  
Note: No-observed-effect level: 75000 ppm  
Lowest observed effect level: 100 000 ppm

#### *Germ cell mutagenicity*

#### **Genotoxicity - in vitro**

Ames test: Negative. Cell type: Human lymphocytes  
Result: Negative  
Method: Mutagenicity (in vitro mammalian cytogenetic test)

Test Method: Chromosome aberration test in vitro  
Result: Negative

Cell type: Human lymphocytes  
Result: Negative

Cell type: Chinese Hamster Ovary Cells  
Result: Negative  
Bacterial reverse mutation test, (OECD 471): Negative. In vitro mammalian cell gene mutation test: Negative. Based on the test results of similar product.  
In vitro chromosomal aberration test., (OECD 473): Negative.  
Mammalian Erythrocyte Micronucleus Test, (OECD Guideline 474), Mouse: Negative.

#### *Reproductive toxicity*

#### **Reproductive toxicity - fertility**

- NOAEL 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.  
- NOAEL 50000 ppm, Inhalation, Rat Note: Did not show teratogenic effects in animal experiments.  
Rat Method of Application: Inhalation (OECD 422) Negative.

#### **Reproductive toxicity - development**

Maternal toxicity: - NOAEL: 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.  
Maternal toxicity: - NOAEL: 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.

#### **Repeated dose toxicity**

Species: Rat  
Application Route: Inhalation  
Exposure time: (4 Weeks)  
NOEL: 50000 ppm  
Subchronic toxicity

### *Difluoromethane*

#### *Acute toxicity - inhalation*

**Notes (inhalation LC<sub>50</sub>)** LC50 > 520000 ppm, Inhalation, Rat

#### *Respiratory sensitisation*

#### **Respiratory sensitisation**

Cardiac Sensitization Threshold Species: Dogs  
Note: No-observed-effect level: >350000 ppm





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### *Germ cell mutagenicity*

<b>Genotoxicity - in vitro</b>	Ames test: Negative.
<b>Genotoxicity - in vivo</b>	Species: Mouse Cell type: Bone marrow Method: Mutagenicity (micronucleus test) Result: Negative

### *Reproductive toxicity*

<b>Reproductive toxicity - fertility</b>	- NOAEL 50000 ppm, , Rat Note: Did not show teratogenic effects in animal experiments. - NOEL 50000 ppm, , Rabbit Note: Did not show teratogenic effects in animal experiments.
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### *Repeated dose toxicity*

Species: Rat  
Application Route: Inhalation  
Exposure time: (90 d)  
NOEL: 50000 ppm  
Subchronic toxicity

## SECTION 12: Ecological information

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### *12.1. Toxicity*

**Toxicity** Based on available data the classification criteria are not met.

### *Ecological information on ingredients.*

#### *Pentafluoroethane*

### *Acute aquatic toxicity*

**Acute toxicity - fish** LC<sub>50</sub>, 96 hour: >100 mg/l, Oncorhynchus mykiss (Rainbow trout)  
Based on the test results of similar product.

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hour: >100 mg/l, Daphnia magna (Water flea)

**Acute toxicity - aquatic plants** ErC<sub>50</sub>, 72 hour: >100 mg/l, Pseudokirchneriella subcapitata (OECD 201)  
Based on the test results of similar product.  
NOEC, 72 hour: >1 mg/l, Pseudokirchneriella subcapitata (OECD 201)  
Based on the test results of similar product.

### *12.2. Persistence and degradability*

**Persistence and degradability** The degradability of the product is not known.

### *Ecological information on ingredients.*

#### *Pentafluoroethane*

**Persistence and degradability** Not readily biodegradable. 5 % 28d (OECD 301D)

### *12.3. Bioaccumulative potential*

**Bioaccumulative potential** No data available on bioaccumulation.



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**Partition coefficient**                      log Pow: 1,48 @ 25°C (CAS No: 354-33-6)  
log Pow: 0.21 @ 25°C (CAS No: 75-10-5)

### Ecological information on ingredients.

#### *Pentafluoroethane*

**Partition coefficient**                      log Pow: 1.48 (OECD 107)

#### *Difluoromethane*

**Partition coefficient**                      log Pow: 0.714

### 12.4. Mobility in soil

**Mobility**                                      The product is insoluble in water.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment**                      This product does not contain any substances classified as PBT or vPvB.

### 12.6. Endocrine disrupting properties

**Endocrine disrupting properties**                      No information available.

### 12.7. Other adverse effects

**Other adverse effects**                      No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information**                      The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods**                      Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible.

## SECTION 14: Transport information

### 14.1. UN number or ID number

<b>UN No. (ADR/RID)</b>	1078
<b>UN No. (IMDG)</b>	1078
<b>UN No. (ICAO)</b>	1078
<b>UN No. (ADN)</b>	1078



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### 14.2. UN proper shipping name

Proper shipping name (ADR/RID)	LIQUEFIED GAS, N.O.S. (Pentafloroetan, Diflorometan)
Proper shipping name (IMDG)	LIQUEFIED GAS, N.O.S. (Pentafloroetan, Diflorometan)
Proper shipping name (ICAO)	LIQUEFIED GAS, N.O.S. (Pentafloroetan, Diflorometan)
Proper shipping name (ADN)	LIQUEFIED GAS, N.O.S. (Pentafloroetan, Diflorometan)

### 14.3. Transport hazard class(es)

ADR/RID class	2.2
ADR/RID classification code	2A
ADR/RID label	2.2
IMDG class	2.2
ICAO class/division	2.2
ADN class	2.2

### Transport labels



### 14.4. Packing group

Not applicable.

### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant  
No.

### 14.6. Special precautions for user

EmS	F-C, S-V
ADR transport category	3
Hazard Identification Number (ADR/RID)	20
Tunnel restriction code	(C/E)

### 14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk according to IMO instruments Not applicable.

## SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
Authorisations (SI 2020 No. 1577 Annex XIV)	No specific authorisations are known for this product.



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<b>Authorisations (Annex XIV Regulation 1907/2006)</b>	No specific authorisations are known for this product.
<b>Restrictions (SI 2020 No. 1577 Annex XVII)</b>	No specific restrictions on use are known for this product.
<b>Restrictions (Annex XVII Regulation 1907/2006)</b>	No specific restrictions on use are known for this product.
<b>Seveso Directive - Control of major accident hazards</b>	Not relevant.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	<p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC50: Lethal Concentration to 50 % of a test population. LD50: Lethal Dose to 50% of a test population (Median Lethal Dose). EC<sub>50</sub>: 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.</p>
<b>Classification abbreviations and acronyms</b>	Press. Gas (Liq.) = Gas under pressure: Liquefied gas
<b>Key literature references and sources for data</b>	<p>Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a> This SDS is prepared based on the information and documents received from product owner. CRAD or/and SDS author shall not be responsible for incorrect prepared of SDS and pecuniary loss or intangible damages because of deficient or wrong information and documents which comes from product owner.</p>
<b>Classification procedures according to SI 2019 No. 720 and Regulation (EC) No. 1272/2008</b>	Press. Gas (Liq.) - H280: : Expert judgement., On basis of test data.
<b>Training advice</b>	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
<b>Issued by</b>	Büşra TARAKCI / CRAD gbf@crad.com.tr Tel+90 216 3354600
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<b>SDS number</b>	13433



## R410A

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577, as amended.  
Commission Regulation (EU) 2020/878 of 18 June 2020.  
According to Regulation (EC) No 1907/2006, Annex II, as amended.

**Hazard statements in full**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.