



Refrigerant R-404A

Safety Data Sheet GCI-017

Date of Issue: 01/01/2021 Revision date: 10/03/2021

Section 1: Product and company Information

1.1 Product Identifier

Trade Name : R-404A
Substance/Mixture : CHF₂CF₃, CH₃CF₃, CH₂FCF₃
MSDS No : GCI-017

1.2 Details of the supplier of the safety data sheet

Name : Globcorp International Co W.L.L
Address : Shop No 52, Building 2527, Road 1535, Block
115, Hidd, Kingdom of Bahrain
Emergency number : +973-34026802/33701856/36487106

1.2 Product Composition / Information of ingredients

Substance Name : R-404A

| Components | CAS-No | Concentration (% w/w) |
|---------------------------|----------|-----------------------|
| 1,1,1-Trifluoroethane | 420-46-2 | 52 |
| Pentafluoroethane | 354-33-6 | 44 |
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 4 |

Section 2: Hazard Identification

Hazards identification : Liquefied gas
May cause frostbite and may displace oxygen and cause suffocation. Contains gas under pressure, may explode if heated. Product may cause frostbite.

Section 3: First Aid Measures

After Inhalation Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

After Skin contact The liquid may cause frostbite. If exposed to liquid, immediately warm frostbite area with warm water for at least 15 minutes.

After Eye contact Immediately flush eyes thoroughly with water for at least 15 minutes.



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After Ingestion

Ingestion is unlikely because of the physical properties and is not expected to be hazardous. Do not induce vomiting unless instructed to do so by a physician.

Section 4: Firefighting Measures

Flammable class

Non-flammable.

Specific hazards

Contact with fire may cause containers to rupture or explode.

Hazardous thermal decomposition products

Decomposition products may include the following:

Carbon dioxide
Carbon monoxide
Halogenated compounds
Carbonyl halides

Suitable extinguishing media

Use appropriate extinguishing media for surrounding fire.

Specific methods

Stop flow of product if safe to do so.

Special protective equipment

In confined space use self-contained breathing apparatus.

Section 5: Handling and Storage

Storage

Keep container below 52°C in a well ventilated place. Maintain cylinders in an upright position and ensure it is firmly secured.

Handling

Prevent suck back and back feed into the container.

Use only proper specified equipment which is suitable for this product.

Refer to supplier's container handling instructions. Contact your gas supplier if in doubt.

Section 6: Exposure controls / Personal protection

Personal protection

Ensure adequate ventilation.

Exposure Controls:

Pentafluoroethane

1000 ppm TWA (8hr)

1,1,1-Trifluoroethane

1000 ppm TWA (8hr)

1,1,1,2-Tetrafluoroethane

1000 ppm TWA (8hr)



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Section 7: Physical and Chemical properties

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| Physical state at 20°C | : Liquefied gas. |
| Color | : Colorless. |
| Odor | : Faint ethereal odor. |
| Molecular formula | : CH ₂ F ₂ , CH ₂ CF ₃ |
| Molecular weight | : 120 |
| Melting point [°C] | : -103 |
| Boiling point [°C] | : -47.8 |
| Critical temperature [°C] | : 72.4 |
| Vapor pressure, 21°C | : 182.9 psia |
| Relative density, gas (air=1) | : 1.05 (25 °C) |
| Relative density, liquid (water=1) | : 1.044 g/cm ³ (25 °C) |
| Solubility in water [mg/l] | : Unknown |

Section 8: Stability and Reactivity

| | |
|--------------------------|--|
| Stability and reactivity | Stable under normal conditions. Can react strongly with oxidizing agents. |
|--------------------------|--|

Section 9: Toxicological Information

Acute Toxicity:

| Product/Ingredient Name | Result | Species | Dose | Exposure |
|---------------------------|-----------------------|---------|-----------------------|----------|
| 1,1,1-Trifluoroethane | LC50 Inhalation Gas | Rat | >54 pph | 4 hours |
| | LC50 Inhalation Vapor | Rat | 1080000 ppm | 1 hour |
| Pentafluoroethane | LC50 Inhalation Vapor | Rat | 2910 g/m ³ | 4 hours |
| 1,1,1,2-Tetrafluoroethane | LC50 Inhalation Vapor | Rat | 1500 h/m ³ | 4 hours |

Section 10: Disposal Considerations

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| General | : Do not discharge into any place where its accumulation could be dangerous or fatal. |
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Section 11: Transport information

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| Transport document description | : UN3337, Refrigerant Gas R404A, 2.2 |
| UN-NO (DOT) | : UN3337 |
| Proper shipping name | : Refrigerant gas R404A |
| Hazard labels (DOT) | : 2.2 – Non-flammable gas |



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| Other transport information | Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure that the vehicle driver is aware of the potential hazards of the load and knows what to do in case of an accident or emergency. |
| Before Transporting product containers | Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug is correctly fitted. Ensure valve protection device is correctly fitted. Ensure there is adequate ventilation. Compliance with applicable regulation. |

Section 12: Other Information

Ensure operators understand the oxygen enrichment.

Keep container in a well ventilated place.

Do not breathe the gas.

Ensure all national/local regulations are observed.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.