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CNAS IB0071



NO.2622090004

# SAFETY DATA SHEET

**Product Name:** Refrigerant R600a

**Effective Date:** 2022-09-13

**Compiler:** Chen Yushuang

**Checker:** Liu Lina

**Approver:** Dongxuesheng



Shanghai Research Institute of Chemical Industry Testing Co., Ltd.



Zhongshan Donglim Weili Electrical Appliances Co.,  
Ltd.

# SAFETY DATA SHEET

## Refrigerant R600a

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### SECTION1 PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Refrigerant R600a  
**Company:** Zhongshan Donglim Weili Electrical Appliances Co., Ltd.  
**Address:** Fusha Industrial Park, Fusha Town, Zhongshan City, Guangdong, 528434,  
P. R. China  
**Email:** bonnie@weili.com.cn  
**Fax:** /  
**Emergency Phone:** 86-14704786278  
**Recommend use of the chemical and restrictions on use:** Refrigeration. Not edible.

**SDS Number:** 2622090004  
**Effective Date:** 2022-09-13

### SECTION2 HAZARDS IDENTIFICATION

**Gas contained in the metal shell:** :

**GHS Classification:**

**Physical Hazards:**

Flammable gases Category 1  
Gases under pressure Liquefied gas

**Health Hazards:**

Specific target organ toxicity-Single exposure Category 1 (Circulatory system)  
Specific target organ toxicity-Single exposure Category 3 (Narcotic effects)

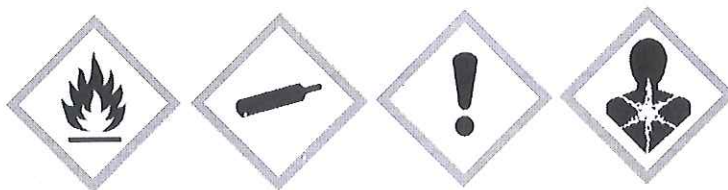
**Environmental Hazards:**

Classification not possible

The hazards not mentioned are not applicable or no data available.

**Label Elements:**

**Pictogram:**

**Signal Word:**

Danger

**Hazard Statements:**

- H220 Extremely flammable gas.  
 H280 Contains gas under pressure; may explode if heated.  
 H370 Causes damage to organs (Circulatory system).  
 H336 May cause drowsiness or dizziness.

**Prevention Precautionary Statements:**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.

**Response Precautionary Statements:**

- P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
 P381 In case of leakage, eliminate all ignition sources.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P308+P316 IF exposed or concerned: Get emergency medical help immediately.

**Storage Precautionary Statements:**

- P410+P403+P233 Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.

**Disposal Precautionary Statements:**

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

**Other Hazards:**

No data available.

**SECTION3 INFORMATION ON INGREDIENTS**

Product name: Refrigerant R600a

Ingredient	Concentration	CAS No.	EC No.
Gas contained in the metal shell:			
Substances:			
Isobutane	100%	75-28-5	200-857-2

**SECTION4 FIRST-AID MEASURES**

Gas contained in the metal shell: :

**Skin Exposure:**

In case of skin contact, flush with copious amounts of water. If irritation persists, Call a physician.

**Eye Exposure:**

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. If irritation persists, Call a physician.

**Inhalation Exposure:**

If inhaled, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

**Oral Exposure:**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Most Important Symptoms/Effects, Acute and Delayed:**

No data available.

**Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary:**

No data available.

### SECTION5 FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**

Suitable: Dry chemical, Water spray, Carbon dioxide or appropriate foam.

**Specific Hazards Arising from the Chemical:**

Extremely flammable gas. Contains gas under pressure; may explode if heated. Mixed with air can form explosive mixtures. The gas is heavier than air and will spread along the ground and collect in low areas, and it will ignite in case of fire. May decompose upon combustion or in high temperatures to generate Carbon oxides.

**Special Protective Action for Fire-fighters:**

Cut off gas source. If the gas source cannot be cut off, it is not allowed to extinguish the flame at leakage. Firefighters are advised to wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place. Move the container from the fire to an open place as much as possible. Cool containers with flooding quantities of water until well after fire is out.

### SECTION6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Eliminate all ignition sources. Delineate the warning zone according to the area affected by gas. Protective Equipment: Wear self-contained breathing apparatus and anti-electrostatic clothing. Evacuate uninvolved personnel from the crosswind and upwind area to the safe area. Keep uninvolved personnel away. All equipment should be grounded during the work. Cut off the source of leakage if safe to do so. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and Materials for Containment and Cleaning up:**

If possible, turn leaking containers so that gas escapes rather than liquid. Isolate the leakage area until the gas has dispersed. Ensure adequate ventilation.

## SECTION7 HANDLING AND STORAGE

### Precautions for Safe Handling:

Closed operation, full ventilation. Operators should be trained and strictly abide by operating procedures. Wear anti-static clothing and protect the respiratory system, eyes and hands properly. Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid formation of aerosols. It is in a pressurized state. Be sure that the inner pressure of the reaction apparatus do not exceed that of the gas cylinder. During the transfer process, the cylinder and container must be grounded and bridged to prevent static electricity. Use explosion-proof ventilation systems and equipment. Prevent gas from leaking into the workplace air. Wash hands and face thoroughly after handling. No smoking at working site. Incompatibilities: Strong oxidizing agents, Strong acids, Strong bases, Halogens, Combustible materials. When handling, load and unload with care to prevent damage to cylinders and accessories. Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

### Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. The temperature of the warehouse should not exceed 30°C. Keep away from heat, sparks, and flame. Keep away from sources of ignition. Incompatibilities: Strong oxidizing agents, Strong acids, Strong bases, Halogens, Combustible materials. Use explosion-proof lighting and ventilation facilities. It is forbidden to use mechanical equipment and tools which easily generate sparks. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

## SECTION8 EXPOSURE CONTROL/PPE

### Control Parameters:

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical

Hazardous Agents:

Not set up.

ACGIH:

Isobutane: TLV-STEL 1000 ppm

### Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

### Individual Protection Measures:

#### Eye/Face Protection:

Wear chemical safety glasses.

#### Skin Protection:

Hand Protection: Wear compatible protective gloves.

Body Protection: Wear anti-static clothing.

#### Respiratory Protection:

If needed, wear filtered gas mask (half mask).

#### Thermal Hazards:

No data available.

#### Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

## SECTION9 PHYSICAL/CHEMICAL PROPERTIES

Appearance: Reseda green metal shell(containing gas)

Gas contained in the metal shell:

Odor:	No data available
pH Value:	No data available
Solubility:	No data available
Melting Point/Freezing Point:	Not applicable
Boiling Point, Initial Boiling Point and Boiling Range:	Not applicable
Flash Point (Closed Cup):	Not applicable
Density/Relative Density:	No data available
Kinematic Viscosity:	Not applicable
Lower/Upper Explosion Limit/Flammability Limit:	No data available
Vapour Pressure:	No data available
Relative Vapor Density:	No data available
Partition Coefficient N-Octanol/Water (Log Value):	No data available
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available
Particle Characteristics:	Not applicable
Flammability (Solid, Gas):	Extremely flammable gas. Contains gas under pressure; may explode if heated.

### SECTION 10 STABILITY AND REACTIVITY

**Reactivity:**

No data available.

**Chemical Stability:**

Stable under normal temperatures and pressures.

**Possibility of Hazardous Reactions:**

Fire and explosion may occur in contact with incompatible materials such as Strong oxidizing agents.

**Conditions to Avoid:**

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Incompatible Materials:**

Strong oxidizing agents, Strong acids, Strong bases, Halogens, Combustible materials.

**Hazardous Decomposition Products:**

Carbon oxides.

**SECTION11 TOXICOLOGICAL INFORMATION**

Gas contained in the metal shell: :

**Acute Toxicity:**

Isobutane: Rat Inhalation LC<sub>50</sub>: 57 pph/15M

**Skin Corrosion/Irritation:**

No data available.

**Serious Eye Damage/Irritation:**

No data available.

**Respiratory Sensitization:**

No data available.

**Skin Sensitization:**

No data available.

**Carcinogenicity:**

No data available.

**Germ Cell Mutagenicity:**

No data available.

**Reproductive Toxicity:**

No data available.

**Specific Target Organ Toxicity -Single Exposure:**

Causes damage to organs (Circulatory system).

May cause drowsiness or dizziness.

**Specific Target Organ Toxicity -Repeated Exposure:**

No data available.

**Aspiration Hazard:**

No data available.

**SECTION12 ECOLOGICAL INFORMATION**

Gas contained in the metal shell: :

**Toxicity:**

No data available.

**Persistence and Degradability:**

No data available.

**Bioaccumulative Potential:**

No data available.

**Mobility in Soil:**

No data available.

**Other Adverse Effects:**

No data available.

**SECTION13 DISPOSAL CONSIDERATION****Disposal Methods:**

Recycle as far as possible. If unable to recycle, it is recommended to use incineration method for disposal under supervision. This product should not be disposed of by discharge into sewers. Return empty containers to the manufacturer or dispose of them in accordance with national and local regulations. Follow the relevant provisions of national and local regulations before disposal. It is recommended to be disposed of by a qualified chemical waste treatment department.

**SECTION14 TRANSPORT INFORMATION**

RID/ADR(2021 Edition): Proper Shipping Name: Isobutane UN Number: UN1969 Hazard Class: 2.1 Packing Group: None

IATA DGR(63<sup>rd</sup> Edition): Proper Shipping Name: Isobutane UN Number: UN1969 Hazard Class: 2.1 Packing Group: None

IMO IMDG CODE(2020 Edition): Proper Shipping Name: Isobutane UN Number: UN1969 Hazard Class: 2.1 Packing Group: None  
Ems No.: F-D, S-U Marine pollutants: No

Environmental Hazards: No.

Special Precautions for User: No data available.

Transport in Bulk Not applicable according to Annex II of MARPOL 73/78 and the IBC Code:

**SECTION15 REGULATORY INFORMATION**

Montreal Protocol:  
Not listed.

Stockholm Convention:  
Not listed.

Rotterdam Convention:  
Not listed.

EINECS/ELINCS:  
The product is listed.

TSCA:  
The product is listed.

IECSC:  
The product is listed.

**SECTION16 OTHER INFORMATION**

Preparation Date:  
2022-09-13

Preparation Department:  
Shanghai Research Institute of Chemical Industry Testing Co., Ltd.  
Tel(Fax): +86-21-52815377/31765555

Revision:  
0

Reference Standard:  
GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), 9<sup>th</sup> revised edition



**Abbreviations and Acronyms:**

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists TLV-STEL: Threshold limit value-short term exposure limit LC<sub>50</sub>: Median lethal dose EmS: Emergency schedule MARPOL: International Convention for the Prevention of Pollution from Ships IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Dangerous Goods Code IATA DGR: International Air Transport Association Dangerous Goods Regulations EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances TSCA: Toxic Substances Control Act IECSC: Inventory of Existing Chemical Substances in China

**Other Information:**

This SDS is compiled based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.