# **MATERIAL SAFETY DATA SHEET**

## **RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C**

# Shenzhen Hongjiali Fire Technology co., Itd

Version No:0.1

Material Safety Data Sheet - Authored according to GB/T16483(2008) and GB/T17519(2013)

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

#### **Product Identifier**

Product name	RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C	
Synonyms	Not Available	
Proper shipping name	FIRE EXTINGUISHERS with compressed or liquefied gas	
Other means of identification	Not Available	

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

**Relevant identified** uses

Fire fighting

#### Details of the manufacturer or supplier of the materialsafety data sheet

Registered company name	Shenzhen Hongjiali Fire Technology co., Itd
Address	Hongjiali Industrial Park, No.412, Changfeng Road, Changzhen Community, Guangming New District, Shenzhen
Telephone	0755-29835515
Fax	Not Available
Website	Not Available
Email	gaojianye@ntek.org.cn

#### **Emergency telephone number**

	ssociation / rganisation	Shenzhen Hongjiali Fire Technology co., Itd
Emergency	y telephone numbers	0755-36995508
Other of telephon	emergency ne numbers	Not Available

### **SECTION 2 Hazards identification**

#### Classification of the substance or mixture

Summary of Hazard in an Emergency Situation

MSDS NO. : 230106010118-29

Issue Date:09/01/2023 Print Date: 09/01/2023

#### Gas.

Classification [1]	Gases Under Pressure (Compressed Gas)

#### Label elements

Hazard pictogram(s)	
Signal word	Warning

#### Hazard statement(s)

Contains gas under pressure; may explode if heated.

#### Precautionary statement(s) Prevention

H280

Not Applicable

#### Precautionary statement(s) Response

Not Applicable

#### Precautionary statement(s) Storage

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

#### Precautionary statement(s) Disposal

Not Applicable

#### Physical and Chemical Hazard

Gas.

Toxic smoke/fumes in a fire.

#### **Health Hazards**

Inhaled	<ul> <li>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</li> <li>Inhalation of non-toxic gases may cause:</li> <li>CNS effects: headache, confusion, dizziness, stupor, seizures and coma;</li> <li>respiratory: shortness of breath and rapid breathing;</li> <li>cardiovascular: collapse and irregular heart beats;</li> <li>gastrointestinal: mucous membrane irritation, nausea and vomiting.</li> </ul>
Ingestion	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). Not considered to be a risk because of the extreme volatility of the gas.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be

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RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C

minimised as a matter of course.
Main route of exposure to the gas in the workplace is by inhalation.

#### **Environmental Hazards**

See Section 12

Other hazards

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

#### Substances

See section below for composition of Mixtures

#### **Mixtures**

CAS No	%[weight]	Name
756-13-8	85	Perfluorohexanone (1230) (filling component)
7727-37-9	15	Nitrogen (filling component)
7440-50-8	10.5	Brass (case component)
7228-33-9	64.93	Stainless steel (housing component)
9002-84-0	0.01	Viton (shell component)
7429-90-5	24.55	Aluminum (housing component)
7440-31-5	0.01	Tin (shell component)

#### **SECTION 4 First aid measures**

#### Description of first aid measures

Eye Contact	<ul> <li>If product comes in contact with eyes remove the patient from gas source or contaminated area.</li> <li>Take the patient to the nearest eye wash, shower or other source of clean water.</li> <li>Open the eyelid(s) wide to allow the material to evaporate.</li> <li>Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.</li> <li>The patient may be in great pain and wish to keep the eyes closed. It is important that the material is rinsed from the eyes to prevent further damage.</li> <li>Ensure that the patient looks up, and side to side as the eye is rinsed in order to better reach all parts of the eye(s)</li> <li>Transport to hospital or doctor.</li> <li>Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur.</li> <li>If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage.</li> <li>Ensure verbal communication and physical contact with the patient.</li> <li>DO NOT allow the patient to tightly shut the eyes</li> <li>DO NOT allow the patient to tightly shut the eyes (s) without medical advice</li> <li>DO NOT use hot or tepid water.</li> </ul>	
Skin Contact	If skin or hair contact occurs: ► Flush skin and hair with running water (and soap if available). ► Seek medical attention in event of irritation.	
Inhalation	<ul> <li>Following exposure to gas, remove the patient from the gas source or contaminated area.</li> </ul>	

	<ul> <li>NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer.</li> <li>Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>If the patient is not breathing spontaneously, administer rescue breathing.</li> <li>If the patient does not have a pulse, administer CPR.</li> <li>If medical oxygen and appropriately trained personnel are available, administer 100% oxygen.</li> <li>Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction.</li> </ul>
	<ul> <li>Keep the patient warm, comfortable and at rest while awaiting medical care.</li> <li>MONITOR THE BREATHING AND PULSE, CONTINUOUSLY.</li> <li>Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.</li> </ul>
Ingestion	Not considered a normal route of entry.

#### Advise for rescue team (PPE requirement for rescue personnel)

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

For gas exposures:

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#### BASIC TREATMENT

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- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.

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#### ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.
- BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

#### **SECTION 5 Firefighting measures**

#### Extinguishing media

SMALL FIRE: Use extinguishing agent suitable for type of surrounding fire.LARGE FIRE: Cool cylinder.DO NOT direct water at source of leak or venting safety devices as icing may occur.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

#### Advice for firefighters

Fire Fighting	<ul> <li>GENERAL</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus and protective gloves.</li> <li>Fight fire from a safe distance, with adequate cover.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Containers may explode when heated - Ruptured cylinders may rocket</li> <li>Fire exposed containers may vent contents through pressure relief devices.</li> <li>High concentrations of gas may cause asphyxiation without warning.</li> <li>May decompose explosively when heated or involved in fire.</li> <li>Contact with gas may cause burns, severe injury and/ or frostbite.</li> <li>Decomposition may produce toxic fumes of:</li> </ul>

#### **SECTION 6 Accidental release measures**

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

See section 8

#### **Measures for Preventing Secondary Contamination**

Refer to section above

#### **Environmental precautions**

See section 12

#### Methods and material for containment and cleaning up

Minor Spills	<ul> <li>Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used.</li> <li>DO NOT enter confined spaces where gas may have accumulated.</li> <li>Increase ventilation.</li> </ul>
Major Spills	<ul> <li>Clear area of all unprotected personnel and move upwind.</li> <li>Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>Wear breathing apparatus and protective gloves.</li> <li>Prevent by any means available, spillage from entering drains and water-courses.</li> <li>Remove leaking cylinders to a safe place.</li> <li>Fit vent pipes. Release pressure under safe, controlled conditions</li> <li>Burn issuing gas at vent pipes.</li> <li>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

## **SECTION 7 Handling and storage**

#### Precautions for safe handling

Safe handling	<ul> <li>Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature</li> <li>The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines.</li> </ul>
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	<ul> <li>Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended.</li> <li>Before connecting gas cylinders, ensure manifold is mechanically secure and does not containing another gas.</li> <li>DO NOT transfer gas from one cylinder to another.</li> </ul>
Other information	<ul> <li>Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.</li> <li>Such compounds should be sited and built in accordance with statutory requirements.</li> <li>The storage compound should be kept clear and access restricted to authorised personnel only.</li> <li>Cylinders stored in the open should be protected against rust and extremes of weather.</li> </ul>

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

Suitable container	<ul> <li>Cylinder:</li> <li>Ensure the use of equipment rated for cylinder pressure.</li> <li>Ensure the use of compatible materials of construction.</li> <li>Valve protection cap to be in place until cylinder is secured, connected.</li> <li>Cylinder must be properly secured either in use or in storage.</li> </ul>
Storage	<ul> <li>Compressed gases may contain a large amount of kinetic energy over and above that potentially</li></ul>
incompatibility	available from the energy of reaction produced by the gas in chemical reaction with other substances

## **SECTION 8 Exposure controls / personal protection**

#### **Control parameters**

#### **Occupational Exposure Limits (OEL)**

#### **INGREDIENT DATA**

Not Available

#### **Emergency Limits**

Ingredient	TEEL-1	TEEL-2		TEEL-3
RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C	Not Available		Not Available	

#### Exposure controls

Appropriate engineering controls	Line basic types of engineering controls are:
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Personal protection	
Eye and face protection	<ul> <li>Safety glasses with side shields</li> <li>Chemical goggles.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	When handling sealed and suitably insulated cylinders wear cloth or leather gloves.
Body protection	See Other protection below
Other protection	<ul> <li>Protective overalls, closely fitted at neck and wrist.</li> <li>Eye-wash unit.</li> <li>Ensure availability of lifeline in confined spaces.</li> <li>Staff should be trained in all aspects of rescue work.</li> </ul>

#### **Respiratory protection**

Full face respirator with supplied air.

- Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
- + Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

## **SECTION 9** Physical and chemical properties

#### Information on basic physical and chemical properties

Appearance	Solid black odorless		
Physical state	Compressed Gas	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available

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#### RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C

Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

## **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## **SECTION 11 Toxicological information**

RACK MOUNTED				
FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C	TOXICITY	IRRITATION		
	Not Available	Not Available		
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's MSDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances			

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

Data either not available or does not fill the criteria for classification
 Data available to make classification

## **SECTION 12 Ecological information**

RACK MOUNTED					
FIRE EXTINGUISHING	Endpoint	Test Duration (hr)	Species	Value	Source
SYSTEM	Not Available	Not Available	Not Available	Not Available	Not Available
XQQW2.4/1.6-H600-C		1	1	1	1
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological				
	Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration				
	Data 8. Vendor Data				

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

#### **Bioaccumulative potential**

Ingredient	Bioaccumulation
	No Data available for all ingredients

#### Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

#### Other adverse effects

Not Available

## **SECTION 13 Disposal considerations**

#### Waste treatment methods

Waste chemicals:	<ul> <li>Evaporate residue at an approved site.</li> <li>Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase.</li> <li>Ensure damaged or non-returnable cylinders are gas-free before disposal.</li> </ul>
Contaminated packing materials:	Refer to section above
Precautions for Transport:	Refer to section above

## **SECTION 14 Transport information**

#### Labels Required

Marine Pollutant	NO

#### Land transport (UN)

UN number	1044
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RACK MOUNTED FIRE EXTINGUISHING SYSTEM XQQW2.4/1.6-H600-C

UN proper shipping name	FIRE EXTI	NGUISHE	RS with compressed or liquefied gas
Transport hazard class(es)	Class Subrisk	2.2 Not Appl	icable
Packing group	Not Applica	able	
Environmental hazard	Not Applica	Not Applicable	
Special precautions for user	Special p Limited q		225 120 ml

#### Air transport (ICAO-IATA / DGR)

UN number	1044			
UN proper shipping name	Fire extinguishers with compressed or liquefied gas			
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk ERG Code	2.2 Not Applicable 2L		
Packing group	Not Applicable			
Environmental hazard	Not Applicable			
Special precautions for user	Special provisions		A19	
	Cargo Only Packing I	nstructions	213	
	Cargo Only Maximum	Qty / Pack	150 kg	
	Passenger and Cargo	Packing Instructions	213	
	Passenger and Cargo	Maximum Qty / Pack	75 kg	
	Passenger and Cargo	Limited Quantity Packing Instructions	Forbidden	
	Passenger and Cargo	Limited Maximum Qty / Pack	Forbidden	

#### Sea transport (IMDG-Code / GGVSee)

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UN number	1044	
UN proper shipping name	FIRE EXTINGUIS	HERS with compressed or liquefied gas
Transport hazard	IMDG Class	2.2
class(es)	IMDG Subrisk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
	EMS Number	F-C, S-V
Special precautions for user	Special provision	s 225
	Limited Quantitie	s 120 mL

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable



#### Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Product name	Group				
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#### Transport in bulk in accordance with the ICG Code

	Product name	Ship Type
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#### **Precautions for Transport**

Transportation precautions:

- Documentation must be included covering all dangerous goods carried on the vehicle
- The transport unit must be placarded and marked in accordance with relevant transporting requirements.
- Personal protective equipment must be in sufficient quantities and suitable for use by the driver of the vehicle and where required for escape purposes, any other persons travelling in the vehicle.
- Vehicles transporting dangerous goods need to be equipped with sufficient and adequate fire protection systems and emergency equipment to handle spillages.
- Likely to be incompatible however refer to MSDS for further details:
- Class 2.3, 3, 4.1, 4.2, 4.3, 5.2, 8
- Incompatible for transport with foodstuffs (including stock feed).

#### Suitable Containers

See section 7

#### **SECTION 15 Regulatory information**

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

#### **National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

#### **SECTION 16 Other information**

Revision Date	09/01/2023
Initial Date	07/01/2022

#### **MSDS Version Summary**

Version	Date of Update	Sections Updated
0.1	09/01/2023	Ingredients, Physical Properties, Name

#### **Definitions and abbreviations**

PC-TWA: Permissible Concentration-Time Weighted Average PC-STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit。 IDLH: Immediately Dangerous to Life or Health Concentrations ES: Exposure Standard **OSF: Odour Safety Factor** NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value **BCF: BioConcentration Factors BEI: Biological Exposure Index** AIIC: Australian Inventory of Industrial Chemicals **DSL: Domestic Substances List** NDSL: Non-Domestic Substances List IECSC: Inventory of Existing Chemical Substance in China EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances NLP: No-Longer Polymers ENCS: Existing and New Chemical Substances Inventory **KECI: Korea Existing Chemicals Inventory** NZIoC: New Zealand Inventory of Chemicals PICCS: Philippine Inventory of Chemicals and Chemical Substances **TSCA:** Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

#### Disclaimer

The information in the MSDS applies only for the specified product and does not include mixtures of this product with other substances and mixtures. The MSDS provides product safety information for personnel trainned to use this product only.



