

Beiblatt zum Sicherheitsdatenblatt / Supplement to the safety data sheet

Abschnitt 1 / Section 1

1.1 Produktidentifikation / Product identification

s. Original-Datenblatt / see original safety data sheet

1.2 Verwendungen des Stoffs / Uses of the substance











s. Original-Datenblatt / see original safety data sheet

1.3 Einzelheiten zum Lieferanten / Details of the supplier

Firmenname /	Supplier	Stürmer Maschinen GmbH,
Straße /	Street	Dr.-Robert-Pfleger-Str. 26,
Ort /	City	D-96103 Hallstadt
Tel. /	Phone	+49 (0)951 96555 - 0 (07:00 - 17:00 Uhr / 07:00 am - 05:00 pm)
E-Mail /	E-Mail	info@stuermer-maschinen.de

1.4 Notrufnummer / Emergency Telephone

Wählen Sie die passende Notrufnummer anhand des GHS-Symbols auf Ihrem Gefahrgut oder entsprechend Abschnitt 2.2 des orig. Sicherheitsdatenblattes *.
Call the appropriate emergency number using the GHS symbol on your dangerous goods or according to section 2.2 of the original safety data sheet *.

GHS Gefahren-piktogramm / GHS symbol	GHS-Kürzel/ GHS-no.	Mögliche Signalwörter/ Warning	Gefährdungsklassen / Description of hazards	Notrufnummer */ Emergency Phone *
	GHS01 bis GHS09			+49 (0)951 96555 - 590 Sammelnotrufnummer Gefahrstoffe
	GHS01	Gefahr oder Achtung / Danger or Attention	Explosive Stoffe/Gemische und Erzeugnisse mit Explosivstoff, selbstzersetzliche Stoffe/Gemische, organische Peroxide / Explosive substances / mixtures and products containing explosives, self-reactive substances / mixtures, organic peroxides	- 591
	GHS02	Gefahr oder Achtung / Danger or Attention	Selbstzersetzliche Stoffe/Gemische, organische Peroxide, entzündbare Gase, Aerosole Flüssigkeiten, Feststoffe, selbsterhitzungsfähige Gemische, pyrophore Flüssigkeiten und Feststoffe, Stoffe/Gemische, die bei Berührung mit Wasser entzündbare Gase bilden / Self-reactive substances / mixtures, organic peroxides, flammable gases, aerosols, liquids, solids, self-heating mixtures, pyrophoric liquids and solids, substances / mixtures which form flammable gases on contact with water	- 592
	GHS03	Gefahr oder Achtung / Danger or Attention	Oxidierende Gase, Flüssigkeiten, Feststoffe / Oxidizing gases, liquids, solids	- 593
	GHS04	Achtung / Attention	Verdichtete, verflüssigte, gelöste und tiefgekühlt verflüssigte Gase / Compressed, liquefied, dissolved and refrigerated liquefied gases	- 594
	GHS05	Gefahr oder Achtung / Danger or Attention	Verätzung der Haut, schwere Augenschäden, auch metallkorrosive Eigenschaften / Chemical burns to the skin, severe eye damage, also metal-corrosive properties	- 595
	GHS06	Gefahr / Danger	Äußerst schwere und schwere akute Gesundheitsschäden oder Tod / Extremely severe and severe acute damage to health or death	- 596
	GHS07	Achtung / Attention	Akute Gesundheitsschäden, Reizung der Haut, der Augen und der Atemwege, Sensibilisierung der Haut, narkotisierende Wirkungen / Acute damage to health, irritation of the skin, eyes and the respiratory tract, sensitization of the skin, narcotic effects	- 597
	GHS08	Gefahr oder Achtung / Danger or Attention	Chronische Gesundheitsschäden (Organschädigungen) bei einmaliger oder mehrmaliger Exposition, krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkungen, Lungenschäden durch Eindringen von Substanzen in die Lunge (Aspirationsgefahr), Sensibilisierung der Atemwege / Chronic damage to health (damage to organs) after single or multiple exposure, carcinogenic, mutagenic and reproductive effects, lung damage due to the penetration of substances into the lungs (risk of aspiration), sensitization of the respiratory tract	- 598
	GHS09	Achtung oder ohne Signalwort / Attention or without wording	Giftig für Wasserorganismen mit kurz- und langfristiger Wirkung / Toxic to aquatic organisms with short and long-term effects	- 599

* 07:00 - 17:00 Uhr, außerhalb dieses Zeitraums kann die Nummer auf dem Sicherheitsdatenblatt angerufen werden / 07:00 am - 05:00 pm, outside this time, the number on the safety data sheet can be called

Für alle anderen Informationen siehe Original-Sicherheitsdatenblatt / For all other information, see the original safety data sheet



浙江省检验检疫科学技术研究院
国家危险化学品检测重点实验室（浙江）



电话 (Tel): 0571 8352 7220
传真 (Fax): 0571 8352 7219
邮编 (Post code): 311215
地址 (Add.): 中国杭州市萧山区建设三路 398 号

正本/ORIGIN

编号: H19008156
No: H19008156
日期: 2019-03-15
Date: 2019-03-15

ZAIQ-RF(HH)-01-19

Safety Data Sheet



Applicant name: Hubei ShengFuYuan Refrigeration Material Co., Ltd.

Product Name: Propane

Edit date: 15th March, 2019

Edit institution: Zhejiang Academy of Science and Technology for Inspection and Quarantine

Approver:

万旺军




1. Unless other wise stated, this test report is only responsible for the sample(s).
2. This test report can not be reproduced, except in full, without prior written permission of the lab.

1. Identification of substance

Product Name	Propane
Other Name	None
Chemical Name	Propane
Recommended Use	Used as refrigerant
Manufacturer Name	Hubei ShengFuYuan Refrigeration Material Co., Ltd.
Address	Nanzhang South Chemical Industrial Park, Xiangyang, Hubei Province /441500
Phone Number	+86-710-3822225
Fax Number	+86-710-3821625
WEB	None
Emergency Phone Number	+86-13797721118 or Call your nearest poison control centre

2. Hazards identification

GHS classification	Flammable gases 1 Gases under pressure (Liquefied gas)
GHS Pictograms	
Signal words	Danger
Hazard statements	H220: Extremely flammable gas H280: Contains gas under pressure; may explode if heated
Precautionary Statement Prevention	P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Precautionary Statement Response	P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.
Precautionary Statement Storage	P403: Store in well-ventilated place. P410+P403: Protect from sunlight. Store in a well-ventilated place.
Other hazards which do not result in classification	Not available.

3. Composition/information on ingredients

☒ **Substances**

☐ **Mixtures**

Component Information

Component	CAS number	EINECS number	Mass(%)
Propane	74-98-6	200-827-9	≥99.5%wt

Note:1. Unless a component presents a severe hazard, it does not need to be considered in the SDS if the concentration is less than 1%.

4. First-aid measures

NOTE TO PHYSICIAN	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.
After inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get immediate medical attention.
After skin contact	Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. If irritation persists, get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
After eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention immediately.
After ingestion	Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Loosen tight clothing such as a collar, tie, belt or waistband. Do not use mouth-to-mouth method if victim ingested the substance. Seek immediate medical attention.
Most important symptoms/effects, acute and delayed	None.

5. Fire-fighting measures

Suitable extinguishing agents	Water spray, foam, dry chemical powder, carbon dioxide, sandy soil.
Special hazards caused by the material, its products of combustion or flue gases	Can be released in case of fire: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Protective equipment for fire-fighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental release measures

Person-related safety precautions	Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Check oxygen content before entering area. Keep unnecessary personnel away.
Measures for environmental protection	Prevent further leakage or spillage if safe to do so. Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting	Dilute and dissolve with spray water.
Additional information	See Section 7 for information on safe handling See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7. Handling and storage

Handling

Information for safe handling

Airtight production process, increasing ventilation. Operator must undergo professional training and follow the procedure strictly. Recommend operating personnel wear antistatic protective clothing. Keep away from heat, sources of ignition - No smoking. Use explosion-proof lighting and ventilation facilities. Prevent vapor release into the workplace. Avoid contact with oxidants.

Information about protection against explosions and fires

Keep away from heat/sparks/open flames/hot surfaces.-No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.

STORAGE

Requirements to be met by storerooms and containers

Keep in a cool, well-ventilated place. Keep away from fire and heat sources. Storage temperature does not exceed 30 °C and relative humidity does not exceed 80%. Stored separately from oxidants, avoid mixed storage. Use of explosion-proof lighting, ventilation facilities. Use spark-proof tools and mechanical equipments. Equip with leak emergency processing equipment.

Information about storage in one common storage facility

In transmission process, cylinder and container must be grounded jumper to prevent static electricity. When handling light discharge, prevent cylinder and its accessories broken. Equip with leak emergency processing equipment. Equip with corresponding varieties and quantities of fire equipments and emergency equipment. Use explosion-proof ventilation system and equipment. Prevent gas from leaking into air of the workplace.

Further information about storage conditions

No data.

8. Exposure controls/personal protection

Limit Values for Exposure

Component

CAS number	ACGIH TLV-TWA	ACGIH TLV-STEL	NIOSH PEL-TWA	NIOSH PEL-STEL
74-98-6	2500 ppm	N.E.	1000 ppm	N.E.

PROPANE

Appropriate engineering controls

Airtight production process, increasing ventilation.

General protective and hygienic measures

Generally do not need special protection. Do not get this material in contact with skin. Do not get this material on clothing. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment	Antistatic work clothing, general operating protective gloves.
Breathing equipment	When workers are facing high concentrations they must use appropriate certified respirators.
Protection of hands	Wear appropriate chemical resistant gloves.
Eye/Face protection	Use safety glasses with side shields or safety goggles as mechanical barrier for prolonged exposure.
Body protection	Full set of anti chemical reagent overalls, flame retardant antistatic protective clothing, choose body protection according to the amount and concentration of the dangerous substance at the work place.

Note: 1. N.E. means not established.

9. Physical and chemical properties

Physical state	Liquid (liquefied gas , liquid at room temperature)
Colour	Colourless
Odour	Slightly odorous
Melting point/freezing point	-187.6 °C
Boiling point or initial boiling point and boiling range	-42.07 °C
Flammability	Extremely flammable
Lower and upper explosion limit/flammability limit	Upper:9.5, lower:2.37
Flash point	-104 °C (Closed cup)
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
pH	Not applicable
Kinematic viscosity	Not applicable
Solubility	Slightly soluble in water, soluble in ether
Partition coefficient: n-octanol/water(log value)	Not applicable
Vapour pressure	0.476 mPa
Density and/or relative density	0.41
Relative vapour density (air=1)	1.56
Particle characteristics	Not applicable

10. Stability and reactivity

Reactivity	No data available.
------------	--------------------

Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No polymerization occurs.
Conditions to avoid (e.g. static discharge, shock or vibration)	Heat and flame and spark. The extreme temperatures and direct sunlight. Static discharge.
Incompatible materials	Avoid contact with oxidants.
Hazardous decomposition products	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

11. Toxicological information

Routes of Entry: Dermal contact, eye contact, inhalation, ingestion.

Acute Toxicity

PROPANE(CAS 74-98-6)	LD50 (Oral, rat) : N/A
	LD50 (Dermal, rabbit) : N/A
	LC50 (Inhalation, rat) : N/A

Skin corrosion/Irritation

Serious eye Not classified

damage/irritation

Respiratory or skin Not classified

sensitization

Germ cell mutagenicity Not classified

Carcinogenicity Not classified

Reproductive toxicity Not classified

STOT-single exposure Not classified

STOT-repeated exposure Not classified

Aspiration hazard Not classified

Chronic Effects Not classified

Further Information No data

12. Ecological information

Ecotoxicity

Aquatic Toxicity Not available

Persistence and Not available

degradability

Bioaccumulative potential Not available

Mobility in soil Not available

Additional Information Not toxic to aquatic life.

13. Disposal considerations

WASTE DISPOSAL INSTRUCTIONS

Contact a qualified professional waste disposal service to dispose of this material.

Dispose of in accordance with local environmental regulations or local authority requirements.

14. Transport information

The Recommendation of Transport of Dangerous Goods(TDG)

UN Number UN 1978
Proper Shipping Name PROPANE
Class/Division Division 2.1 Flammable Gases
Package Group None
Subsidiary risk None
labelling pictogram



Maritime transport IMDG/ Being same with TDG/No
Marine pollutant (Yes/No)
Air transport ICAO-TI and Being same with TDG
IATA-DGR

15. Regulatory information

European/International Regulations

OSHA: Hazardous by definition of Hazard Communication Standard(29CFR 1910.1200).
EINECS Status: This chemical is included in EINECS inventory.
EPA TSCA Status: This chemical is included in TSCA inventory.
Canadian This chemical is included in DSL.

DSL(Domestic Substances List):
HMIS(Hazardous Material Identification System Ratings): Health: 0
Flammability: 4
Physical hazard: 1
Personal protection: G
(4. Severe Hazard; 3. Serious Hazard; 2. Moderate Hazard; 1. Slight Hazard; 0. Minimal Hazard)
A, B1.

WHMIS(Canadian Workplace Hazardous Material Identification System Ratings):
GB 12268-2012 List of dangerous goods This chemical is a dangerous goods on the GB 12268-2012 list of dangerous goods.

16. other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This

FOR INSPECTION AND
USE ONLY

information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This Material Safety Data Sheet was based on the "Globally Harmonized System of Classification and Labelling of Chemicals", "Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations", "INTERNATIONAL MARITIME DANGEROUS GOODS CODE", "International Air Transport Association Dangerous Goods Regulations", the National Standards and other related dangerous chemicals management laws, regulations and standards, which are periodically updated and changed. To make dangerous goods / hazardous chemicals comply with the relevant requirements of the latest management, regularly update is recommended.

This Material Safety Data Sheet has been compiled in both English and Chinese. For any discrepancies, the Chinese version shall prevail.

Abbreviations and acronyms	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
	RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
	IMDG: International Maritime Code for Dangerous Goods
	IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
	ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
	EINECS: European Inventory of Existing Commercial Chemical Substances
	CAS: Chemical Abstracts Service
	LC50: Lethal concentration, 50 percent
	LD50: Lethal dose, 50 percent
Edit Date	15.03.2019
Update and Revise	Original edition
Edit Standard	<i>Globally Harmonized System of Classification and Labelling for Chemicals</i> Part 1.5
Revised Institution	Zhejiang Academy of Science and Technology for Inspection and Quarantine