



Design Report of Safety Data Sheet

Report No.: DG2050459E

Date: 2020/05/23



Name of the sample	MAP PRO		
Applicant	NINGBO YIHE REFRIGERATION EQUIPMENT CO.,LTD		
Supplier	NINGBO YIHE REFRIGERATION EQUIPMENT CO.,LTD		
Composition of the sample	C3H6: 99.6%		
Warranty of Design	GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Eighth revised edition		
Design Result of SDS please see next page.			
Designer	华雯	Approver	王红波

Notes: This SDS is valid before the implementation of the ninth revised edition GHS.



SAFETY DATA SHEET

MAP PRO

NINGBO YIHE REFRIGERATION EQUIPMENT CO., LTD

- According to GHS (Eighth Revised Edition)

SDS

Section 1 Product and Company Identification

> Product Identifier

Product Name	MAP PRO
Synonyms	-
CAS No.	115-07-1
EC No.	204-062-1
Molecular Formula	CH ₃ CHCH ₂

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses	Please consult manufacturer.
Uses Advised Against	Please consult manufacturer.

> Details of the Supplier of the Safety Data Sheet

Supplier Name	NINGBO YIHE REFRIGERATION EQUIPMENT CO.,LTD
Supplier Address	A3309 HEBANG MANSION NO.933 TIAN TONG NORTH ROAD NINGBO CHINA
Supplier Post Code	315000
Supplier Telephone	+86-574-81859926
Supplier Fax	+86-574-87143918
Supplier E-mail	sunny.zhang@retoent.com

> Emergency Phone Number

Emergency Phone Number	+86-570-3832752
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Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the eighth revised edition):

> GHS Hazard Class

Flammable Gases	Category 1A
Gases Under Pressure	Liquefied gas

> GHS Label Elements

Pictogram



Signal Word

Danger

> Hazard Statements

H220 Extremely flammable gas
 H280 Contains gas under pressure; may explode if heated

> Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 In case of leakage, eliminate all ignition sources.

Storage

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

Disposal

Not applicable

Section 3 Composition/Information on Ingredients

Component	Concentration (weight percent, %)	CAS No.	EC No.
C3H6	99.6	115-07-1	204-062-1

Section 4 First Aid Measures

> Description of First Aid Measures

General Advice

Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.

Skin Contact

Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Inhalation

Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.

Protecting of First-aiders

Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

> Most Important Symptoms and Effects, both Acute and Delayed

- Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

> Indication of Any Immediate Medical Attention and Special Treatment Needed

- 1 Treat symptomatically.
- 2 Symptoms may be delayed.

Section 5 Fire Fighting Measures

> Extinguishing Media

Suitable Extinguishing Media

Dry chemical, carbon dioxide or water spray.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter or spread fire.

> Specific Hazards Arising from the Substance or Mixture

- 1 Flammable: will be easily ignited by heat, sparks or flames.
- 2 Will form explosive mixtures with air.
- 3 Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
- 4 Vapours may travel to source of ignition and flash back.
- 5 Containers may explode when heated.
- 6 Fire exposed containers may vent contents through pressure relief valves.
- 7 May expansion or decompose explosively when heated or involved in fire.

> Advice for Firefighters

- 1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2 Fight fire from a safe distance, with adequate cover.
- 3 Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 Accidental Release Measure

> Personal Precautions, Protective Equipment and Emergency Procedures

- 1 Avoid breathing vapors and contacting with skin and eye.
- 2 Beware of vapours accumulating to form explosive concentrations.
- 3 Vapours can accumulate in low areas.
- 4 Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
- 5 Ensure adequate ventilation. Remove all sources of ignition.
- 6 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 7 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

> Environmental Precautions

- 1 Prevent further leakage or spillage if safe to do so.
- 2 Discharge into the environment must be avoided.

> Methods and Materials for Containment and Cleaning Up

- 1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

- 3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Section 7 Handling and Storage

> Precautions for Handling

- 1 Avoid inhalation of vapors.
- 2 Use only non-sparking tools.
- 3 To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- 4 Use explosion proof equipment.
- 5 Handling is performed in a well ventilated place.
- 6 Wear suitable protective equipment.
- 7 Avoid contact with skin and eyes.
- 8 Keep away from heat/sparks/open flames/ hot surfaces.
- 9 Take precautionary measures against static discharges.

> Precautions for Storage

- 1 Keep containers tightly closed.
- 2 Keep containers in a dry, cool and well-ventilated place.
- 3 Keep away from heat/sparks/open flames/ hot surfaces.
- 4 Store away from incompatible materials and foodstuff containers.

Section 8 Exposure Controls/Personal Protection

> Control Parameters

Occupational Exposure Limit Values

Component	Country/Region	Limit Value - Eight Hours		Limit Value - Short Term	
		ppm	mg/m ³	ppm	mg/m ³
C3H6 115-07-1	Switzerland	10000	17500	-	-
	Latvia	-	100	-	-
	Ireland	500	-	-	-
	Denmark	100	172	200	344
	Denmark	100	172	200	344
	Canada - Ontario	500	-	-	-

Biological Limit Values

No information available

Monitoring Methods

- 1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
- 2 GBZ/T 160 Determination of toxic substances in workplace air(Series effective standard)and GBZ/T 300 Determination of toxic substances in workplace air(Series standard).

> Engineering Controls

- 1 Ensure adequate ventilation, especially in confined areas.
- 2 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3 Use explosion-proof electrical/ventilating/lighting/equipment.

- 4 Set up emergency exit and necessary risk-elimination area.

> Personal Protection Equipment

Eye Protection	Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).
Hand Protection	Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
Respiratory protection	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and Body Protection	Wear fire/flame resistant/retardant clothing and antistatic boots.

Section 9 Physical and Chemical Properties

Appearance: Colorless liquefied gas	Odor: No information available
Odor Threshold: No information available	pH: Not applicable
Melting Point/Freezing Point (°C): -185	Initial Boiling Point and Boiling Range (°C): -48
Flash Point (°C)(Closed Cup): Not applicable	Evaporation Rate: Not applicable
Flammability: No information available	Upper/lower explosive limits[%(v/v)]: Upper limit: 10.3; Lower limit: 2.4
Vapor Pressure (KPa): Not applicable	Relative Vapour Density(Air = 1): Not applicable
Relative Density(Water=1): Not applicable	Solubility: Insoluble in water
n-Octanol/Water Partition Coefficient: Not applicable	Auto-Ignition Temperature(°C): 460
Decomposition Temperature (°C): No information available	Kinematic Viscosity (mm²/s): Not applicable
Particle characteristics: Not applicable	

Section 10 Stability and Reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical Stability	Stable under proper operation and storage conditions.
Possibility of Hazardous Reactions	Products of the addition reactions with nitrogen dioxide, nitrogen oxides or ammonia which form nitrogen oxides may cause an explosion.
Conditions to Avoid	Incompatible materials, heat, flame and spark.
Incompatible Materials	Nitrogen dioxide, nitrogen oxide, ammonia, Oxidantss, halogenated alkanes, and halogen.
Hazardous Decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 Toxicological Information

> Acute Toxicity

No information available

> Skin Corrosion/Irritation

No information available

> Serious Eye Damage/Irritation

No information available

> Skin Sensitization

No information available

> Respiratory Sensitization

No information available

> Germ Cell Mutagenicity

No information available

> Carcinogenicity

ID	CAS No.	Component	IARC	NTP
1	115-07-1	C3H6	Category 3	Not Listed

> Reproductive Toxicity

No information available

> Reproductive Toxicity (Additional)

No information available

> STOT-Single Exposure

No information available

> STOT-Repeated Exposure

No information available

> Aspiration Hazard

No information available

Section 12 Ecological Information

> Acute Aquatic Toxicity

No information available

> Chronic Aquatic Toxicity

No information available

> Others

Persistence and Degradability	No information available
Bioaccumulative Potential	No information available
Mobility in Soil	No information available

Results of PBT and vPvB Assessment

C3H6 does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Section 13 Disposal Considerations**Waste Chemicals**

Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.

Contaminated Packaging Disposal Recommendations

Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible. Refer to section 13.1 and 13.2.

Section 14 Transport Information**Transporting Label****Marine pollutant**

None

UN Number

1077

UN Proper Shipping Name

PROPYLENE

Transport Hazard Class

2.1

Transport Subsidiary Hazard Class

NONE

Packing Group

The packagings must conform to package instructions of UN number

Section 15 Regulatory Information**> International Chemical Inventory**

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS	ENCS
C3H6	√	√	√	√	√	√	√	√	√

[EINECS] European Inventory of Existing Commercial Chemical Substances.

[TSCA] United States Toxic Substances Control Act Inventory.

[DSL] Canadian Domestic Substances List.

[IECSC] China Inventory of Existing Chemical Substances.

[NZIoC] New Zealand Inventory of Chemicals.

[PICCS] Philippines Inventory of Chemicals and Chemical Substances.

[KECI] Existing and Evaluated Chemical Substances.

[AICS] Australia Inventory of Chemical Substances.

[ENCS] Existing And New Chemical Substances.

Note

"√" Indicates that the substance included in the regulations

"x" That no data or included in the regulations

Section 16 Additional Information

Creation Date	2020/06/23
Revision Date	2020/06/23
Reason for Revision	-

> Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 8th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user' s reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.



Design Report of GHS Label

Report No.: DG2050461E
Date: 2020/05/23



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Supplier	NINGBO YIHE REFRIGERATION EQUIPMENT CO.,LTD		
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Designer	华雯	Approver	王红



This label is valid before the implementation of the ninth revised edition GHS.



MAP PRO

Component(s):
C3H6: 99.6%

Danger



UN No.:1077
UN Shipping
Name:
PROPYLENE

Extremely flammable gas, Contains gas under pressure; may explode if heated

【Prevention】

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

【Response】

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

In case of leakage, eliminate all ignition sources.

【Storage】

Store in a well-ventilated place.

Protect from sunlight. Store in a well-ventilated place.

【Disposal】

Not applicable

Please refer to Safety Data Sheet (SDS)

Supplier: NINGBO YIHE REFRIGERATION EQUIPMENT
CO.,LTD

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