

Section 1. Product and Company Identification

Product Name: ColdSnap® Appliance

Model Numbers: ICM 4.5, ICM 4.6

Description: Rapid freeze appliance for producing frozen confections containing R1270 propylene refrigerant

Chemical Name (English): Propylene

Chemical Name (Chinese): Propylene

Product Type: Liquified Gas

Quantity of Chemical:

ICM 4.5: 98±2 grams	ICM 4.6: 98±2 grams
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SDS #: P-621-001

Manufacturer: ColdSnap, Corp.
6 Enterprise Road
Billerica, MA 01821, U.S.A.

Emergency Phone Number: +1 781-879-2911

Section 2. Hazards Identification

Classification of the Substance or Mixture: Flammable Gases – Category 1
Gases Under Pressure – Liquified Gas

Label Elements: Not applicable to the Model Number/Description identified above

Hazard Statements: Contains extremely flammable gas.
Gas may explode if heated.

Precautionary Statements: Keep unit away from heat sources, hot surfaces, sparks, open flames, and other ignition sources.
Do not smoke near unit.

Operator Hazards: The propylene is sealed within the unit and does not present a hazard to the operator unless released. If released, the product is an asphyxiant and mild anesthetic which can cause loss of consciousness. See Section 4 for First Aid Measures and Section 6 for Accidental Release Measures.

Section 3. Substances/Composition Information

Substance/Mixture: Substance

Chemical Name: Propylene

Concentration: 100%

CAS Number: 115-07-1

Statements: There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First Aid Measures

Eye Contact:	Not a usual route of contamination, but if exposure does occur, remove contact lenses if present and easy to do so. Wash eyes with plenty of water, occasionally lifting upper and lower eyelids. Continue to rinse for at least 10 minutes. Seek medical attention if irritation occurs.
Skin Contact:	Not a usual route of contamination, but if exposure does occur, flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharge and gas ignition, soak the contaminated clothing thoroughly with water before removing. Seek medical attention if symptoms occur. Wash clothes before reuse.
Ingestion:	Not a usual route of contamination.
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Loosen tight clothing such as collars, ties, belts, or waistbands. Keep airway open. If breathing is difficult, provide oxygen. If breathing stops, provide artificial respiration and seek medical attention immediately. Note that it may be dangerous to the person providing mouth-to-mouth resuscitation. If victim is unconscious, seek medical attention immediately.
Statements:	There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 5. Fire-Fighting Measures

Specific Hazards:	Propylene will ignite in the presence of heat and will react with nitrogen dioxide, dinitrogen tetroxide, nitrous oxide and other oxidants. It is heavier than air and can spread.
Hazardous Thermal Decomposition Products:	Carbon monoxide, carbon dioxide
Special Protective Actions for Fire-Fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Remove other appliances and ignitable materials in the vicinity of the fire if safe to do so, or use water spray to keep cool.
Suitable Extinguishing Media:	Water spray, foam, carbon dioxide, dry powder.

Section 6. Accidental Release Measures

Non-Emergency Personnel:	Accidental release poses a fire and/or explosion risk. Only suitably trained personnel shall take action. Immediately evacuate all others from the contaminated area and keep upwind if possible. Restrict access to unnecessary and unprotected personnel. Do not allow smoking or any open flames in the surrounding area.
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Section 6. Accidental Release Measures

Environmental Precautions:	Use industrial coatings or absorbent materials to cover sewers and other areas surrounding the leak.
Emergency Responders:	Wear self-contained positive pressure breathing apparatus and anti-static overalls if available. Reduce the leak's source as much as possible. Maximize ventilation to accelerate diffusion. Remove/prevent all sources of ignition.

Section 7. Handling and Storage

Precautions for Safe Handling:	Do not expose unit to excessive heat. Remove/prevent all sources of ignition. Do not smoke in the vicinity of the unit. Ensure adequate ventilation. Do not puncture or incinerate unit. Keep unit upright. Do not tilt, topple, or drop unit.
Conditions for Safe Storage, Including any Incompatibilities:	Do not expose unit to excessive heat. Store unit away from sparks, open flame, or other ignition sources. Ensure adequate ventilation. Store unit upright.
Specified End Use(s):	Only intended for use as the refrigerant for the specific unit and model number specified in Section 1.

Section 8. Exposure Controls/Personal Protection

Control Parameters:	
U.S. ACGIH TLV TWA:	500 ppm, 8 hours
China MAC:	No standard has been established
Former Soviet Union, MAC:	100 mg/m ³
TLVTN:	ACGIH asphyxiating gas
TLVWN:	No standard has been established
Engineering/Environmental Controls:	In the event of leakage, ventilate the area. Remove/prevent sources of ignition. Avoid smoking in the vicinity of the unit.
Individual Protection:	
Respiratory Protection:	Use self-contained breathing apparatus in the event of leakage.
Eye Protection:	Use chemical safety glasses or full face shield in the event of leakage.
Body Protection:	Wear antistatic overalls and protective gloves in the event of leakage.

Section 9. Physical and Chemical Properties

Main Ingredients:	Pure Product
Appearance and Properties:	Colorless, hydrocarbon-odor compressed gas
pH:	Not available
Molecular Formula:	C ₃ H ₆
Molecular Weight:	42.08 g/mol
Melting Point (°C):	-191.2
Boiling Point (°C):	-47.7
Relative Density (Water = 1):	0.5 g/ml
Relative Vapor Density (Air =1):	1.48
Saturated Vapor Pressure (kPa):	602.88 (0°C)
Heat of Combustion (kJ/mol):	2049
Critical Temperature (°C):	91.9
Critical Pressure (MPa):	4.62
Log Value of Octanol/Water Partition Coefficient:	Not available
Flash Point (°C):	-108
Ignition Temperature (°C):	455
Upper Explosion Limit% (V/V):	1.0
Lower Explosion Limit% (V/V):	15.0
Solubility:	Soluble in water and ethanol
Main Purpose:	Used to make acrylonitrile, propylene oxide, acetone, etc.
Other Physical and Chemical Properties:	Not available

Section 10. Stability and Reactivity

Reactivity:	No specific test data is available.
Chemical Stability:	The product is stable.
Hazardous Reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid:	Avoid all sources of ignition (sparks or flame). Do not pressurize, cut, weld, braze, solder, drill, grind, smoke nearby, or expose to excessive heat or sources of ignition.
Incompatible Materials:	Oxidizers, Strong acids.
Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products will not occur.
Polymerization Products:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological Information

Acute Toxicity:	No specific test data is available.
LD50/LC50:	No specific test data is available.
Subacute and Chronic Toxicity:	No specific test data is available.
Irritation/Corrosion:	No specific test data is available.
Sensitization:	No specific test data is available.
Mutagenicity:	No specific test data is available.
Carcinogenicity:	No specific test data is available.
Reproductive Toxicity:	No specific test data is available.
Teratogenicity:	No specific test data is available.

Section 12. Ecological Information

Eco-Toxicity:	No data is available.
Biodegradability:	No data is available.
Non-Biodegradability:	No data is available.
Bioaccumulation Potential:	No data is available.
Mobility in Soil:	No data is available.
Other Adverse Effects:	This substance is harmful to the environment if released from the unit. Special attention should be paid to bodies of water and aquatic life, as well as pollution of surface water, soil, and drinking water.

Section 13. Disposal Considerations

Disposal Methods:	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Incineration is the recommended means of disposal.
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Section 14. Transport Information

ADR. International Carriage of Dangerous Good by Road:

UN Number:	UN 3358
Name and Description:	Refrigerating machines containing flammable, non-toxic, liquified gas
Class:	2
Packing Group:	---
Environmental Hazards:	Does not present an environmental hazard.
Special Precautions for User:	No special precautions necessary.

Special Provision 291: Refrigerating machines and refrigerating machine components are not subject to the requirements of ADR if they contain less than 12 kg of gas.

Section 14. Transport Information

IATA. International Air Transport Association:

UN Number:	UN 3358
Name and Description:	Refrigerating machines containing flammable, non-toxic, liquified gas
Class:	2.1
Packing Group:	---
Environmental Hazards:	Does not present an environmental hazard.
Special Precautions for User:	No special precautions necessary.

Special Provision A103: Refrigerating machines and refrigerating machine components are considered not subject to these Regulations if containing less than 100g of flammable, non-toxic, liquified gas. The system components have been designed for and tested to more than 3 times the working pressure of the machinery, and have been designed and constructed to contain the flammable gas and preclude the risk of cracking or bursting. Test and design data is on file at ColdSnap, Corp. and is available upon request.

IMDG. International Maritime Dangerous Goods.

UN Number:	UN 3358
Name and Description:	Refrigerating machines containing flammable, non-toxic, liquified gas
Class:	2.1
Packing Group:	---
Environmental Hazards:	Does not present an environmental hazard.
Special Precautions for User:	No special precautions necessary.
Transport in Bulk – Maritime:	Bulk transport is not applicable to this product.

Special Provision 291: Refrigerating machines and refrigerating machine components are not subject to the provisions of this Code if they contain less than 12 kg of gas.

Section 15. Regulatory Information

U.S. Federal Regulations:	TSCA 8(a) CDR Exempt/Partial Exemption: Not determined. Clean Air Act (CAA) 112 Regulated Flammable Substances: Propylene
Clean Air Act Section 112 (b) Hazardous Air Pollutants:	Not listed
Clean Air Act Section 602 Class I Substances:	Not listed
Clean Air Act Section 602 Class II Substances:	Not listed
DEA List I Chemicals (Precursor Chemicals):	Not listed
DEA List I Chemicals (Essential Chemicals):	Not listed

Section 15. Regulatory Information

SARA 302/304	No products found
SARA 304 RQ:	Not applicable
SARA 311/312	Refer to Sections 2 and 3
Classification:	
U.S. State Regulations:	
Massachusetts:	This material is listed.
New York:	This material is not listed.
New Jersey:	This material is listed.
Pennsylvania:	This material is listed.
California Prop. 65:	This product does not require a Safe Harbor Warning under California Prop. 65.
International Regulations:	
Chemical Weapon Convention List Schedules I, II & III Chemicals:	Not listed.
Montreal Protocol:	Not listed.
Stockholm Convention on Persistent Organic Pollutants:	Not listed.
Rotterdam Convention on Prior Informed Consent (PIC):	Not listed.
UNECE Aarhus Protocol on POP's and Heavy Metals:	Not listed.

Section 16. Other Information

U.S. Hazardous Material Information System:	Flammability: 4 – Significant Hazard or Risk.
U.S. National Fire Protection Association:	Flammability: 4 – Materials that completely vaporize at normal pressure and temperature and burn readily.
Globally Harmonized System of Classification and Labeling of Chemicals (GHS):	Classification H220 – Extremely Flammable Gas.

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