COOLING SUPPLIES

REFRIGERANT R600a ISOBUTANE

Material Safety Data Sheet

Date Prepared: 27/07/2021

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ISOBUTANE
CHEMICAL FAMILY: Paraffin Series Hydrocarbon

DISTRIBUTOR INFORMATION:
ILYS Ltd t/a Cooling Supplies
11A King St
Rangiora
New Zealand
Ph: 0274 746 786
Fax: 03 313 7631
EMERGENCY TELEPHONE NUMBER 0800 746 786 (NZ only)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components:

Material	**CAS Number**	**%**
LIQUIFIED PETROLEUM GAS	75-28-5	100

3. HAZARDS IDENTIFICATION

3.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Classification: H220 - Flammable Gas Category 1, H280 - Liquified Gas
Signal Word: DANGER
Hazard Statement(s): H220: Extremely flammable gas
H280: Contains gas under pressure; may explode if heated.
Symbol(s): Flames, Gas Cylinder

3.2. Label elements

Labeling Regulation EC 1272/2008 (CLP)

- Labeling Pictograms

GHS02

GHS04

Precautionary Statements

Prevention	**P210 :** Keep away from heat/sparks/open flames/hot surfaces – No smoking.
Response	**P377 :** Leaking gas fire : Do not extinguish unless leak can be stopped safely.
	P381 : Eliminate all ignition sources if safe to do so.
Storage	**P403 :** Store in a well ventilated place.

POTENTIAL HEALTH EFFECTS

Effects of Overexposure:

Eye Contact:	No known significant effects or critical hazards.
Skin Contact:	No known significant effects or critical hazards.
Inhalation:	Acts as simple asphyxiant.
Ingestion:	Ingestion is not a normal route of exposure for gases

3.3. Other hazards
Contact with liquid may cause cold burns/frost bite.

4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, restore breathing at once. Administer oxygen and get medical help.

SKIN CONTACT
For liquid contact, warm areas gradually and get medical attention if there is evidence of tissue damage. Flush area with plenty of water.

EYE CONTACT
For liquid contact, irrigate with running water for minimum of 15 minutes. Consult physician immediately if frostbite occurs.

INGESTION
Do not induce vomiting. Contact a physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties

FLASH POINT (METHOD): -117 F (Open Cup)
UPPER EXPLOSIVE LIMIT (vol.) gas in air): 8.4%
LOWER EXPLOSIVE LIMIT (vol.) gas in air): 1.8%

EXTINGUISHING MEDIA:
Dry Chemical Extinguisher (B-C), Water

SPECIAL FIRE FIGHTING PROCEDURES:
Stop the release of materials if possible. Cool the vapour space of the storage container with water spray. Avoid accumulation of unburned materials. Remove personnel in general area. Observe maximum isolation when extinguishing fire. Expansion of liquid and change of state from liquid to vapour will allow combustible mixture to encompass a large area.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Vapours are heavier than air and may travel along the ground or may be moved by ventilation systems and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Avoid sources of ignition-Ventilate area. Use water fog to evaporate or ventilate. Protect body against contact with liquid. If confined space – Use self-contained breathing apparatus. Consult local fire authorities.

7. HANDLING AND STORAGE

Comply with state and local regulations covering liquefied petroleum gases.
Comply with NFPA Pamphlet #58.
Store small containers in well-ventilated areas, away from heat or sources of ignition. Prohibit smoking in areas of storage or use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION:
Mechanical: Provide as needed to keep concentration in air below TLV and LEL
Local Exhaust: Continuous ventilation recommended
Special: Explosion proof fans and motors

RESPIRATORY PROTECTION: NIOSH approved self-contained breathing apparatus
PROTECTIVE GLOVES: Impervious, insulated gloves recommended
EYE PROTECTION: Face shield or goggles recommended
OTHER: Impervious clothing for prolonged or repeated contact

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

ODOUR & APPEARANCE: Clear, Colourless liquefied gas with sweet petroleum odour
SOLUBILITY IN WATER: @ 21 Deg. C: 0.008%
SPECIFIC GRAVITY (H2O=1.00): 0.564
BOILING RANGE: 10.9 Deg. F
PRESENT VOLATILE BY VOLUME: 100%
VAPOUR PRESSURE @ 21 Deg. C: 31 psig
VAPOUR DENSITY (air = 1.00): 2.006
EVAPORATION RATE: > 1 (Ethyl Ether = 1.0)

10. STABILITY AND REACTIVITY

STABILITY:
This product is stable

INCOMPATIBILITY (Material to Avoid):
None

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon Monoxide, Volatile Hydrocarbon Vapours

HAZARDOUS POLYMERIZATION:
Can not occur

CONDITIONS TO AVOID:
High Heat, Sparks & Open Flames

11. ECOLOGICAL INFORMATION

No data given

12. DISPOSAL CONSIDERATIONS

(1) Mechanical recovery
(2) Flare-Off at safe location (Vapours)
(3) Exhaust to atmosphere in safe location (No open flames)

OTHER DISPOSAL CONSIDERATIONS:
Disposal must comply with federal, state, and local disposal laws.

13. TRANSPORT INFORMATION

UN No:	1969
Labeling ADR, IMDG, IATA:	2.1: flammable gas

Land transport	
ADR/RID	
H.I.nr	23
UN Proper shipping name:	Isobutane
Transport hazard class	2
ADR/RID Classification code	2 F
Packing instruction(s) - General	P200
Tunnel instructions:	B/D Tank carriage: Passage forbidden through tunnels of category B, C, D and E; Other carriage: Passage forbidden through tunnels of category D and E.
Sea transport	
-IMO-IMDG code	
Proper shipping name:	Isobutane
Class:	2.1
-IMO Packing group	P200
-Emergency schedule (EmS)	Fire F-D
-Emergency schedule (EmS)	Spillage S-U
-Instructions – Packing	P200
Air transport	
-ICAO/IATA	
-Proper shipping name	Isobutane
Class	2.1
Passenger and cargo aircraft	-
Cargo aircraft only	
-Packing instruction	200

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or emergency.

Before transporting containers:
-Ensure containers are firmly secured.
-Ensure cylinder valve is closed and not leaking
-Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
-Ensure valve protection device (where provided) is correctly fitted.
-Ensure there is adequate ventilation.
-Compliance with applicable regulations.

14. REGULATORY INFORMATION

The ingredients listed in section 2 are reported/included in the U.S. TSCA inventory and Canadian domestics substance list.

The product is defined by OSHA in 29 CFR 1910.1200c as a flammable gas. Use of this product may require compliance with 29 CFR 1910.119, process safety management of highly hazardous chemicals.

15. OTHER INFORMATION

HMIS Classification:
Health: 1
Flammability: 4
Reactivity: 0

End of MSDS