

# SAFETY DATA SHEET

According to Regulation (EC) No.1907/2006

## HARP<sup>®</sup> 600a, Isobutane

Version: CLP03

Date: Jan 2018

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### 1. Identification of the substance / preparation and company / undertaking

<b>Product name</b>	Harp <sup>®</sup> 600a, Isobutane
<b>REACH registration number</b>	01-2119485395-27
<b>Company</b>	Harp International Ltd Gellihirion Industrial Estate Pontypridd Rhondda Cynon Taff CF37 5SX Tel: +44 (0) 1443 842255 Fax: +44 (0) 1443 841805 Email: harp@harpintl.com
<b>Emergency phone number</b>	+44 (0) 1270 502891 (24 hour)
<b>Use</b>	Subject to Member State regulations, applicable uses are refrigerant, blowing agent and propellant.

### 2. Hazards identification

#### EC Classification of the substance or mixture

##### Hazard Class & category code:

##### Regulation (EC) No. 1272/2008 (CLP):

- **Physical hazards** Flammable gases - Category 1 - Danger (H220)  
Gases under pressure - Liquefied gas -Warning (H280)

#### Label Elements

##### Labelling Regulation EC 1272/2008 (CLP)

- **Hazard pictogram(s)**



GHS02



GHS04

- **Hazard pictograms code** GHS02 - GHS04.
- **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/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.

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### 3. Composition / information on ingredients

#### Substance / Preparation

Chemical name

Chemical formula

Substance

Isobutane.

C<sub>4</sub>H<sub>10</sub>/(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>3</sub>

Substance name	Contents	CAS no.	EC No	Index no.	Registration no.	Classification
Isobutane	100%	75-28-5	200-857-2	601-004-00-0	01-2119485395-27	Flam. Gas 1 (H220) Liq. Gas (H280)

Contains no other components or impurities which will influence the classification of the product.

### 4. First aid measures



The first aid advice given for skin contact, eye contact and ingestion is applicable following exposures to the liquid or spray. Also see section 11.

#### Inhalation

Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.

#### Skin contact

Thaw affected areas with water. Remove contaminated clothing. Caution: clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of warm water. If irritation or blistering occur, obtain medical attention.

#### Eye contact

Immediately irrigate with eyewash solution or clean water, holding the eyelids apart for at least 15 minutes. Obtain immediate medical attention.

#### Ingestion

Unlikely route of exposure. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300ml (half a pint) of water to drink. Obtain immediate medical attention.

### 5. Fire-fighting measures

#### Specific hazards

Exposure to fire may cause containers to rupture/explode.

#### Hazardous combustion products

Incomplete combustion may form carbon monoxide.

#### Extinguishing media

-Suitable extinguishing media

Specific methods

All known extinguishants can be used.

If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

#### Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

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### 6. Accidental release measures

#### Personal precautions

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.  
Evacuate area.  
Ensure adequate air ventilation.  
Eliminate ignition sources.

#### Environmental precautions

Try to stop release.  
Prevent from entering sewers, basements and work-pits or any place where its accumulation can be dangerous.

#### Clean up measures

Ventilate area.

### 7. Handling and storage

#### Handling

Take precautionary measures against static discharge.  
Suck back of water into the container must be prevented.  
Purge air from systems before introducing gas.  
Do not allow back-feed into the container.  
Use properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.  
Keep away from ignition sources (including static discharges).  
Refer to suppliers container handling instructions.

#### Storage

Segregate from oxidant gases and other oxidants in store.  
Keep container below 50°C in a well ventilated place.

### 8. Exposure controls / personal protection

#### Personal protection

Wear suitable protective clothing, gloves and eye/face protection.  
Wear thermal insulating gloves when handling liquefied gases. In cases of insufficient ventilation, where exposure to high concentrations of vapour is possible, suitable respiratory protective equipment with positive air supply should be used.  
Do not smoke while handling product.



Eye Protection



Gloves

#### Occupational exposure limits

Isobutane : TLV – TWA [ppm] : 800

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### 9. Physical and chemical properties

<b>Form</b>	Liquefied gas
<b>Physical state at 20°C</b>	Gas
<b>Colour</b>	Colourless
<b>Odour</b>	Sweetish. Poor warning properties at low concentrations.
<b>Molecular weight</b>	58
<b>Solubility in water [mg/l]</b>	54
<b>Boiling point (°C)</b>	-12.0
<b>Melting point (°C)</b>	-159.0
<b>Relative density, gas (air=1)</b>	2
<b>Relative density, liquid (water =1)</b>	0.59
<b>Vapour pressure (20°C)</b>	3 bar
<b>Flammability range [vol% in air]</b>	1.5 to 8.5
<b>Auto ignition temperature [°C]</b>	460
<b>Other data</b>	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

### 10. Stability and reactivity

<b>Hazardous decomposition products</b>	None.
<b>Incompatible materials</b>	Can form explosive mixture with air. May react violently with oxidants. Air, oxidiser.
<b>Conditions to avoid</b>	Keep away from heat, sparks, open flames, hot surfaces. No smoking.

### 11. Toxicological information

<b>Toxicity information</b>	No known toxicological effects from this product.
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### 12. Ecological information

<b>Ecological effects information</b>	No known ecological damage caused by this product.
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### 13. Disposal information

<b>General</b>	Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flashback arrestor. Do not discharge into a place where its accumulation could be dangerous. Contact supplier if guidance is needed.
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### 14. Transport information

UN No. 1969

Labelling ADR, IMDG, IATA

2.1 : flammable gas

#### Land transport

ADR/RID

H.I.nr 23

UN Proper shipping name Isobutane

Transport hazard class(es) 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 drivers 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.

### 15. Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture** Ensure all national/local regulations are observed.

**SEVESO Regulation 96/82/EC** Listed.

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### 16. Other information

Ensure operators understand the flammability hazard.

Contact with liquid may cause burns/frostbite.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

This data sheet contains changes from the previous version, CLP02 dated January 2018. Section 2 & 3 has been updated.

This datasheet was prepared in accordance with Regulation (EC) No. 1907/2006.

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