HARP® Hydrocarbon Aerosol Propellant

Revision: 1
Revision date: September 2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	Hydrocarbon Aerosol Propellant
REACH registration number	Exempt (Article 2(7)(b) Annex V)
CAS No.	See section 3: Composition/information on ingredients
EC No.	See section 3: Composition/information on ingredients

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use	Aerosol propellant
Restricted use	Consumer uses: Private households (= general public = consumers)
Description	Gas

1.3 Details of the supplier of the safety data sheet

Company	Harp International Limited
Address	Gellihirion Industrial Estate Pontypridd Rhondda Cynon Taff CF37 5SX UK
Web	www.harpintl.com
Telephone	+44 (0) 1443 842 255
Fax	+44 (0) 1443 841 805
Email	harp@harpintl.com
Email of competent person	safety@harpintl.com

1.4 Emergency telephone number

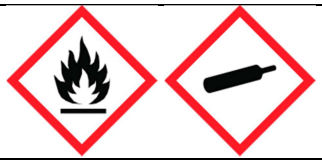
Emergency telephone number	+44 (0) 1270 502 891 24 hours

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification – EC 1272/2008	Flam. Gas 1: H220; Compressed gas: H280

2.2 Label elements

Hazard pictograms	
Signal word	Danger
Hazard statement	H220 – Extremely flammable gas H280 – Contains gas under pressure; may explode if heated
Precautionary statement	P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P377 – Leaking gas fire: Do not extinguish unless leak can be stopped safely P381 – Eliminate all ignition sources if safe to do so P410+P403 – Protect from sunlight. Store in a well-ventilated place.

2.3 Other hazards

Other hazards	Breathing of high vapour concentrations may cause central nervous system depression. Asphyxiant in high concentrations. Contact with liquid may cause cold burns/frostbite.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Preparation description	Complex mixture of hydrocarbons consisting predominantly of butanes and butenes, propane and propenes plus some C5 and higher hydrocarbons.
Synonyms	AP22, AP30, AP40, AP48, AP70, AP105.

EC 1272/2008

Chemical name	CAS No.	EC No.	REACH registration number	Concentration (%w/w)	Classification
Petroleum Gases, Liquefied	68476-85-7	270-704-2	Exempt	90-100%	Flam. Gas 1: H220 Compressed gas: H280

The purity in this section is used for classification only and does not represent the actual purity of the substance as supplied.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation	Move the exposed person to fresh air
Eye contact	Rinse immediately with plenty of water
Skin contact	Frostbite: treat as thermal burns
Ingestion	Ingestion is not considered a potential route of exposure

4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Breathing of high vapour concentrations may cause central nervous system depression resulting in dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness and death.
Eye contact	Contact with liquefied gas can cause damage due to evaporative cooling
Skin contact	Contact with liquefied gas can cause damage due to evaporative cooling
Ingestion	Ingestion is not considered a potential route of exposure

4.3 Indication of any immediate medical attention and special treatment needed

Inhalation	Seek immediate treatment. Treat symptomatically. Artificial respiration and/or oxygen may be necessary.
Eye contact	Seek medical attention if irritation or symptoms persist
Skin contact	Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.
Ingestion	Ingestion is not considered a potential route of exposure

SECTION 5: Firefighting measures

5.1 Extinguishing media

	Dry chemical, carbon dioxide (CO_2), sand or earth for minor fires.

5.2 Special hazards arising from the substance or mixture

	Carbon monoxide may be evolved if incomplete combustion occurs as well as unidentified organic and inorganic compounds. Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapour Explosion (BLEVE). Contents are under pressure and can explode when exposed to heat or flames. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

5.3 Advice for firefighters

	Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out. Keep containers and surroundings cool with water spray. Do not use direct water jets on the burning product as could cause a steam explosion and spread the fire. Wear full protective clothing and self-contained breathing apparatus. Clear the area of all non-emergency personnel. If possible, remove containers from the danger zone.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

	Consider the risk of potentially explosive atmospheres. Evacuate personnel to a safe area. Ensure adequate ventilation of the working area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Eliminate all sources of ignition. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and earthing all equipment. Vapours are heavier than air. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.2 Environmental precautions

	Prevent further leakage or spillage if safe to do so. Use appropriate containment to avoid environmental contamination.

6.3 Methods and material for containment and clean up

	Small spillages – allow to evaporate, contain spillage with suitable adsorbant media. Keep area free from ignition sources until any spilled material has evaporated (ground free from frost). Ventilate contaminated area thoroughly. Large spillages – notify Emergency Services. Any firefighting products should be contained using appropriate methods.

6.4 Reference to other sections

	See section 8 Exposure controls / personal protection See section 13 Disposal considerations

SECTION 7: Handling and storage

7.1 Precautions for safe handling

	This product is intended for use in closed systems only. Only experienced and properly instructed persons should handle gases under pressure. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Take precautionary measures against static discharges. Ensure equipment is adequately earthed. Purge air from system before introducing gas. Assess the risk of potentially explosive atmosphere and the need for explosion-proof equipment. Protect containers from physical damage. Do not drag, roll, slide or drop. Never attempt to repair or modify container valves or safety relief devices. Close container valves after each use and when empty, even if still connected to equipment. Never use direct flame or electrical heating devices to raise the pressure of a container. Delivery lines may become cold enough to present a cold burns hazard. This product can create a low temperature exposure hazard when released as a liquid. Containers, even those that have been emptied, can contain explosive vapours.

7.2 Conditions for safe storage, including any incompatibilities

	Segregate from compressed oxygen and other strong oxidizers in store. Keep container in a cool, well-ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from combustible material. All equipment in storage areas should be compatible with the risk of potentially explosive atmospheres.
Suitable packaging	For containers and container linings, use materials specifically approved for use with this product. Examples of suitable materials are: PA-11, PEEK, PVDF, PTFE, GRE (Epoxy), GRVE (vinyl ester), Viton (FKM), type F and GB, Neoprene (CR).

Unsuitable materials	Some forms of cast iron. Examples of materials to avoid are: ABS, polymethyl methacrylate (PMMA), polyethylene (PE / HDPE), polypropylene (PP), natural rubber (NR), Nitrile (NBR), ethylene propylene rubber (EPDM), Butyl (IIR), Hypalon (CSM), polystyrene, polyvinyl chloride (PVC), polyisobutylene. For containers and container linings, aluminium should not be used if there is a risk of caustic contamination of the product.

7.3 Specific end use(s)

	See section 1.2 Relevant identified uses of the substance or mixture and uses advised against for further information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters – exposure limit values

Component	CAS No.	Value type (form of exposure)	Exposure limit values	Source
Liquefied Petroleum Gas	68476-85-7	TWA	1000ppm / 1750mg/m^3	EH40

Note: Carc (only applies if LPG contains more than 0.1% of buta-1,3-diene)

8.2 Exposure controls

Appropriate engineering controls	Select controls based on a risk assessment of local circumstances. Appropriate measures include sealed systems, adequate explosion-proof ventilation to control airborne concentrations below the exposure limits, local exhaust ventilation, firewater monitors and deluge systems.
Individual protection measures	Wear protective clothing
Eye/face protection	Safety eyewear, goggles or face-shield to EN166 should be used to avoid exposure to liquid splashes.
Skin & body protection	Protective gloves against cold to EN511. Safety footwear to ISO 20345. Wear flame resistant/retardant clothing. Take precautionary measures against static discharges.
Respiratory protection	Wear suitable respiratory protection equipment when necessary
Thermal hazards	If there is a risk of contact with the liquid, all protective equipment should be suitable for extremely low temperatures.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance - Physical state	Gas
Appearance - Form	Liquefied gas
Colour	Colourless
Odour	Odourless
Odour threshold	No data available
pH	No data available
Melting point	No data available
Boiling point / range	Typical -40^{o}C to -2^{o}C
Flash point	Typical <-60^{o}C
Evaporation rate	Not applicable for gases and gas mixtures
Flammability (solid, gas)	Typical 1.4% (V) – 10.9% (V)
Vapour pressure	ca. 590 to 1,760 kPa at 45^{o}C
Density	Typical 500-510kg/m^3 at 15^{o}C

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Solubility(ies) **Water solubility**	Negligible
Partition coefficient: n-octanol/water	ca. 2.3 to 2.8 log Pow
Vapour density (air = 1)	ca. 1.5 at 15°C
Auto-ignition temperature	Typical 365°C
Decomposition temperature	No data available
Viscosity **Viscosity, kinematic**	Not applicable

9.2 Other information

	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

	Stable under normal conditions

10.2 Chemical stability

	Stable under normal conditions

10.3 Possibility of hazardous reactions

	Hazardous exothermic polymerization cannot occur

10.4 Conditions to avoid

	Heat, open flames, sparks and flammable atmospheres.

10.5 Incompatible materials

	Strong oxidizing agents e.g. chlorates & nitrates

10.6 Hazardous decomposition products

	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Combustion produces carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	Not applicable
Skin corrosion/irritation	Not irritating to skin
Serious eye damage/irritation	Not irritating to eye
Respiratory or skin sensitisation	Not expected to be a sensitiser
Germ cell mutagenicity	No evidence of mutagenic activity
Carcinogenicity	Not expected to be a carcinogen
Reproductive toxicity	Not a developmental toxicant. Not expected to impair fertility.
STOT single exposure	High concentrations may cause central nervous system depression resulting in headaches, dizziness, nausea. Continued inhalation may result in unconsciousness or death.
STOT repeated exposure	Low systemic toxicity on repeated exposure
Aspiration hazard	Not considered an aspiration hazard

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SECTION 12: Ecological information

12.1 Toxicity

	Physical properties indicate that petroleum gases will rapidly volatilize from the aquatic environment and that acute and chronic effects would not be observed in practice.

12.2 Persistence and degradability

	Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

12.3 Bioaccumulative potential

	Not expected to bioaccumulate significantly

12.4 Mobility in soil

	Because of their extreme volatility, air is the only environment that hydrocarbon gases will be found.

12.5 Results of PBT and vPvB assessment

	Not considered to be PBT or vPvB

12.6 Other adverse effects

	In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life. Global warming potential: 0

SECTION 13: Disposal considerations

13.1 Waste treatment methods

	Given the nature and uses of this product, the need for disposal seldom arises. If necessary, dispose by controlled combustion in purpose-designed equipment. Return part-used or empty cylinders to the supplier. Dispose of contaminated packaging or waste arising from a spillage in accordance with prevailing regulations. EWC code: 16 05 04

SECTION 14: Transport information

Hazard pictograms

	

14.1 UN number

	UN 1965

14.2 UN proper shipping name

	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Propane/Butane)

14.3 Transport hazard class(es)

ADR/RID	
Class	2
Labels	2.1
Hazard No. (ADR)	23
Hazchem code	2YE
IMDG	
Class	2.1

IATA Class	2.1

14.4 Packing group

	Not assigned

14.5 Environmental hazards

Environmental hazards	Not applicable
Marine pollutant	Not classified as a marine pollutant

14.6 Special precautions for user

	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure container valves are closed, not leaking and caps in place. Ensure containers are firmly secured. Ensure compliance with applicable regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

	Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

15.2 Chemical safety assessment

	A CSA has not been carried out for this substance due to its REACH exemption

SECTION 16: Other information

Other information

Text of Hazard Statements in Section 3	H220: Extremely flammable gas H280: Contains gas under pressure; may explode if heated
Reference materials	HSE publication EH40/2005 Workplace exposure limits (latest edition)
Changes from previous versions	-

Further information

	The information supplied in this safety data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made of its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the material in the user's end product, if applicable.