



DATA SHEET

Carbon dioxide (solid) Cartridge

Helite 60cc Cartridge

Dangerous Goods regulations IATA (Index 1):
Permitted in or as carry-on baggage: YES
Permitted in or as checked baggage: YES

Division 2.2 (Index 2)

Content	50cc cartridge	50ml, 35g CO ₂ (Division 2.2)
	60cc cartridge	60ml, 44g CO ₂ (Division 2.2)
	100cc cartridge	100ml, 60g CO ₂ (Division 2.2)
Filling	50cc, 60cc, 100cc	CO ₂ (Carbon Dioxide)
Filling Pressure	50cc, 60cc, 100cc	60bar
Test Pressure	50cc, 60cc, 100cc	Individually tested at 110°C
Safety relief valve	50cc, 60cc, 100cc	>500bar
Canister Material	50cc, 60cc, 100cc	Steel



TABLE 2.3.A
Provisions for Dangerous Goods Carried by Passengers or Crew
(Subsection 2.3) (continued)

Permitted in or as carry-on baggage					The approval of the operator(s) is required	The pilot-in-command must be informed of the location
Permitted in or as checked baggage						
Permitted on one's person						
YES	YES	YES	YES	NO		
YES	YES	YES	NO	NO	Small non-flammable gas cartridges , containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating safety device such as a life-jacket or vest. Not more than one (1) device per passenger, and up to two (2) spare small cartridges per passenger, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2).	
YES	YES	YES	NO	NO	Alcoholic beverages , when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.	
NO	YES	NO	NO	NO	Aerosols in Division 2.2 , with no subsidiary risk, for sporting or home use. and	
YES	YES	YES	NO	NO	Non-radioactive medicinal or toilet articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol. The total net quantity of all above mentioned articles must not exceed 2 kg or 2 L, and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	
YES	YES	YES	NO	NO	Energy efficient lamps when in retail packaging intended for personal or home use.	
YES	YES	YES	NO	NO	Fuel cells, and spare fuel cartridges powering portable electronic devices (e.g. cameras, cellular phones, laptop computers, and camcorders), see 2.3.5.10 for details.	
YES	YES	NO	NO	NO	Hair curlers containing hydrocarbon gas , up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. These hair curlers must not be used on board the aircraft at any time. Gas refills for such curlers are not permitted in checked or carry-on baggage.	
YES	YES	NO	NO	NO	Insulated packagings containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.	
NO	YES	NO	NO	NO	Internal combustion or fuel cell engines , must meet A70 (see 2.3.5.15 for details).	
YES	YES	YES	NO	NO	Medical or clinical thermometer , which contains mercury, one (1) per person for personal use, when in its protective case.	
YES	YES	YES	NO	NO	Non-flammable, non-toxic gas cylinders worn for the operation of mechanical limbs. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.	
YES	YES	NO	NO	NO	Non-infectious specimens packed with small quantities of flammable liquid, must meet A180 (see 2.3.5.14 for details).	
NO	YES	NO	NO	NO	Permeation devices , must meet A41 (see 2.3.5.16 for details).	
YES	YES	YES	NO	NO	Portable electronic devices (including medical devices) containing lithium metal or lithium ion cells or batteries , such as watches, calculating machines, cameras, cellular phones, lap-top computers, camcorders, etc., when carried by passengers or crew for personal use (see 2.3.5.9). Batteries must not exceed 2 g for lithium metal batteries and 100 Wh for lithium ion batteries.	
YES	NO	YES	NO	NO	All spare batteries, including lithium metal or lithium ion cells or batteries , for such portable electronic devices must be carried in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	
YES	YES	NO	NO	NO	Portable electronic devices containing non-spillable batteries , batteries must meet A67 and must be 12 V or less and 100 Wh or less. A maximum of 2 spare batteries may be carried (see 2.3.5.13 for details).	
NO	NO	YES	NO	NO	Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person or fitted externally, or radiopharmaceuticals contained within the body of a person as the result of medical treatment.	
NO	NO	YES	NO	NO	Safety matches (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage. <i>Note: "Strike anywhere" matches, "Blue flame" or "Cigar" lighters are forbidden.</i>	

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2.3

Note:
n/a means not applicable

Material Safety Data Sheet

Carbon Dioxide

Section 1. Chemical product and company identification

Product Name : Carbon Dioxide
Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253
Product use : Synthetic/Analytical chemistry.
MSDS# : 001013
Date of Preparation/Revision : 4/11/2005.
In case of emergency : 1-800-949-7937

Section 2. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Carbon Dioxide	124-38-9	100	ACGIH TLV (United States, 9/2004). STEL: 54000 mg/m ³ 15 minute(s). Form: All forms STEL: 30000 ppm 15 minute(s). Form: All forms TWA: 9000 mg/m ³ 8 hour(s). Form: All forms TWA: 5000 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 6/2001). STEL: 54000 mg/m ³ 15 minute(s). Form: All forms STEL: 30000 ppm 15 minute(s). Form: All forms TWA: 9000 mg/m ³ 10 hour(s). Form: All forms TWA: 5000 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 6/1993). TWA: 9000 mg/m ³ 8 hour(s). Form: All forms TWA: 5000 ppm 8 hour(s). Form: All forms

Section 3. Hazards identification

Physical state : Gas.
Emergency overview : Warning!
CONTENTS UNDER PRESSURE.
CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, CARDIOVASCULAR SYSTEM, SKIN, EYES, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
Avoid contact with skin and clothing. Avoid breathing gas. Do not puncture or incinerate container. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Contact with rapidly expanding gas, liquid, or solid can cause frostbite.
Routes of entry : Inhalation, Dermal, Eyes
Potential acute health effects
Eyes : Moderately irritating to the eyes.
Skin : Moderately irritating to the skin.
Inhalation : Moderately irritating to the respiratory system.
Ingestion : Ingestion is not a normal route of exposure for gases

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Section 12. Ecological information

- Products of degradation** : These products are carbon oxides (CO, CO₂).
Toxicity of the products of biodegradation : The product itself and its products of degradation are not toxic.
Environmental fate : Not available.
Environmental hazards : No known significant effects or critical hazards.
Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1013	CARBON DIOXIDE	2.2	Not applicable (gas).		Limited quantity Yes.
	UN2187	Carbon dioxide, refrigerated liquid				Packaging instruction Passenger Aircraft Quantity limitation: 75 kg Cargo Aircraft Quantity limitation: 150 kg
TDG Classification	UN1013	CARBON DIOXIDE	2.2	Not applicable (gas).		Explosive Limit and Limited Quantity Index 0.125
	UN2187	Carbon dioxide, refrigerated liquid				Passenger Carrying Road or Rail Index 75
Mexico Classification	UN1013	CARBON DIOXIDE	2.2	Not applicable (gas).		-
	UN2187	Carbon dioxide, refrigerated liquid				

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