

Date:	28/11/2014	Q-reference:	TF0_3.2Fb vs 01
Description:	16g MSDS		

1 PRODUCT

16g compressed gas Nitrous oxide (N2O) filled charger

2 DESCRIPTION AND USES

A disposable steel cylinder containing nitrous oxide at high pressure. The contents are released by piercing a metal cap. Principal use is in conjunction with appliances designed for cryosurgical applications.

3 TECHNICAL DATA

External surface: Color-Silver
 Sealing method: Piercable metal cap, crimp closed on to neck opening
 Material of body: special deep drawing steel

DIMENSION	METRIC UNITS	US/IMPERIAL UNITS
Overall length:	88.4 mm	3.48 in
Body Diameter:	22 mm	0.866 in
Neck Diameter:	8.6 mm	0.339 in
Internal Volume (Approx.)	20.4 ml	1.24 in ³
Net weight of N2O:	16 g	0,64 oz
Tare wt. of charger (Approx.):	42 g	1.68 oz
Gross wt. of charger (Approx.):	58 g	2.32 oz
Bursting pressure:	> 500 bar	> 7250 lbf/in ²
Pressure/Temperature Characteristics at filling density of 0,75 kg/litre:	52 bar at 20° C	754 lbf/in ² at 68° F
	165 bar at 50° C	2392 lbf/in ² at 122° F
	255 bar at 70° C	3697 lbf/in ² at 158° F
	385 bar at 100° C	5582 lbf/in ² at 212° F
	425 bar at 110° C	6162 lbf/in ² at 230° F

4 NITROUS OXIDE

Gas supplied in accordance to iSi Spec. TLV 0193 / E942 (99% N₂O) USP, EU.PH.

Gas density at 0,1 MPa	1,836 kg/m ³	at 20,0° C	0,115 lb/cu ft at 68° F
Relative density (air=1)	1,53	at 20,0° C	1,53 at 68° F
Critical temperature		36,5° C	98° F
Molecular weight	44		

Appearance:	vapour	colourless
	liquid	clear
	solid	colourless acicular crystals
Odour		mildly sweet
Taste		mildly sweet
Fire Hazard		non-flammable
Toxicity		non-toxic, in high concentrations may cause asphyxiation. recommended maximum 0,01% v/v for continuous working conditions.

Non aerosol

5 CAUTION

Use chargers and dispensers only in accordance with instruction.
 Do not inhale. Misuse can be physically harmful and dangerous to your health. See toxicity note above.
 Do not use for any other purpose.
 Do not heat. Maximum environmental temperature in use not to exceed 50° C (122° F).
 Chargers are under pressure.

6 HANDLING AND STORAGE

Keep cool and dry, keep out of sun and heat.
 Never dispose of full chargers. Never ever use force.
 Keep out of reach of children. Keep this packaging until use of last charger.
 Recyclable steel

Storage temperature limit: maximum 50°C 122° F

7 TRANSPORTATION AND STORAGE

UN No.: 2037
Title: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device

No dangerous goods by road and sea transport
16g N2O filled chargers are not classified as dangerous goods, therefore it is not necessary to label, transport and storage them as dangerous goods.

Air Transport :

In accordance with the requirements set out in the current issue of the IATA, Dangerous Good Regulation.

This classification can be found in the UN Recommendations on the Transport of Dangerous Goods (Model Regulations). UN No. 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable, Special Provision SP 191 specifies: "Receptacles, small, containing gas are not fitted with a release device. Receptacles with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to these Provisions"

The gas N2O (Nitrous Oxide) is classified according to UN Regulation as a Division 2.2 gas (nonflammable, non-toxic gases).

Customs code is 28112930 : "Receptacle small containing gas (gas cartridges < 21 ml) extra air freight without release devices UN2037, class 2.2. Gas special provision A98 applies. Good are not restricted."

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