1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1	**Product identifier**	
	Name	**Maxy gas** (liquefied petroleum gas)
	Registration No.	Not applicable (the product is a mixture): please refer to Section 3.2 le for information related to constituent substances
1.2	**Relevant identified uses of the substance or mixture**	
	Description/use	Cartridge of fuel gas for welding and recharge of portable professional equipment
1.3	**Details of the supplier of the safety data sheet**	
	Company name	OXYTURBO Srl
	Address and Country	Via Serio, 4/6 25015 – Desenzano del Garda (BS) Italy
	Telephone	+39.030.9911855
	Fax	+39.030.9911270
	E-mail address of the concerned person in charge of the safety data sheet	livio.simoni@studiopas.it
1.4	**Emergency telephone number**	Ca' Granda Hospital Drug and Poison Information Centre - Piazza Ospedale Maggiore, 3 - Milan (Italy) Tel. +39 02/64441 (24/24 h)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The product is classified as hazardous according to directives 67/548/EEC and 1999/45/EC, and CLP Regulation CE 1272/2008 (as amended). Therefore an MSDS as per regulation EC 1907/2006, as amended, is required for this product.

2.1.1 As per CLP Regulation EC 1272/2008, as amended

Hazard classification and indicators:
Flam. Gas 1 H220
Press. Gas H280

It does not contain 1,3-butadiene (<0.1%) (therefore Note K of Regulation 1272/2008 shall apply).

2.1.2 As per European Directive 67/548/EEC, Directive 1999/45/EC, as amended

Hazard Symbols: F+
R phrases: R12

For the full text of both the risk phrases (R) and the hazard indicators (H), see Section 16.

2.2 Label elements

Pictograms

(Flammable gases: hazard category 1)

(Pressurized gas: liquefied gases)

Warning Hazard

Hazard indicators:

H220 Highly flammable gas.

Caution advices:

P102 Keep away from children.

P210 Keep away from heat sources, sparks, open flames, or heated surfaces - Do not smoke.

P377 In event of fire due to gas leak, do not extinguish unless it is possible to stop the leak safely.

P381 Remove any source of ignition if it is not dangerous.

P403 Store in a well ventilated place.

P410+412 Do not expose to direct sunlight. Do not expose to a temperature exceeding 50°C.

The hazard indicators are simplified by virtue of the departure provided for by Annex 1, Section 1.3.2 of Regulation EC 1272/2008.

2.3 Other hazards

Physical hazards:

The accumulation of vapours in confined environments may lead to explosive mixtures with the air, mainly in closed rooms.

Strong heating of the container (e.g. in case of fire) causes a significant increase in terms of liquid volume and pressure, with the subsequent danger for the receptacle to explode.

Health and safety hazards for workers:

The liquid gas direct contact on skin or eyes may cause localized freezing of skin or conjunctiva.

The presence or the injection of gas in confined environments may cause asphyxiation. Keep oxygen concentration above 17% (normal value = 20.9%)

In default of oxygen, gas combustion too may result incomplete and leading to the formation of carbon monoxide, a toxic gas.

Inhaling the gas as it is may lower the activity of the central nervous system thus causing drowsiness and vertigo. In case of prolonged exposure, cardiac sensitization (arrhythmia) may occur.

Hazards for the environment:

Being a volatile organic compound (VOC), the gas is subject to photochemical reactions generating hazardous atmospheric pollutants (ozone, organic nitrates).

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Liquid pressurized odorized mixture of fuel gases and liquids.

It does not contain 1,3-butadiene (<0.1%).
Pentane is denatured with 7-10% of 1,2-dichloropropane and 1-3% methyl carbonate.

Identifier	Concentration (% weight)	CAS number	EC number	EC index number	67/548/EEC Classification	1272/2008 Classification (CLP)
Liquefied petroleum gas (propane, isobutane and n-butane) Reg. date not expired	70-85	68476-85-7	270-704-2	649-202-00-6	F+ R12	Flam. Gas 1 H220, Press. Gas
Propylene Reg. date not expired	15-25	115-07-1	204-062-1	601-011-00-9	F+ R12	Flam. Gas 1 H220, Press. Gas
Acetone Reg. date not expired	3-5	67-64-1	200-662-2	606-001-00-8	F R11, Xi R36, R66, R67	Flam.Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
Pentane Reg. date not expired	2	109-66-0	203-692-4	601-006-00-1	F+ R12, Xn R65, R66, R67, N R51/53	Flam. Liq. 2 H225, Asp. Tox. 1 H304, STOT SE 3 H336, Aqu. Cron. 2 H411, EUH066
1,2-Dichloropropane Reg. date not expired	<0.2	78-87-5	201-152-2	602-020-00-0	F R11, Xn R20/22	Flam. Liq. 2 H225, Acute Tox. 4 H332 H302
Methyl carbonate Reg. date not expired	<0.1	616-38-6	210-478-4	607-013-00-6	F R11	Flam. Liq. 2 H225

For the full text of both the risk phrases (R) and the hazard indicators (H), see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

- Eye contact: in case of contact with the liquid product immediately wash with water for at least 15 minutes keeping the eyelid up. Do not use hot water. Do not rub. Get medical attention in case of irritation, lachrymation, altered vision, or eye damages.
- Skin contact: in case of contact with the liquid product, dip the frozen part in the water for approximately 5 minutes. Do not use hot water. Do not rub. In case of skin lesions, get medical attention.
- Ingestion: this is a fairly unlikely case considering the product volatility. In any case, it may cause severe damages due to the freezing of mucosae and tissues in the mouth, oesophagus, and stomach. If the case may be, do not induce vomiting and immediately get medical attention.
- Inhalation: move the injured person away from the hazardous area. In case of asphyxiating atmosphere and should the injured person need any assistance, use the convenient protection equipment. Do not use any object which may cause explosions during rescue operations. Let the injured person breath fresh air and immediately call a doctor. In case of respiratory distress, implement first aid procedures. Symptoms related to the absorption of either gases or vapours (drowsiness, blurry vision, possible arrhythmia) may occur delayed. This is why it is necessary to immediately get medical attention as soon as you feel unwell, bringing the product label or the data sheet with you.

4.2 Most important symptoms and effects, both acute and delayed

For symptoms and effects due to the substances contained, please refer to Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Follow the physician's advice.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: carbon dioxide, foam, chemical dust.
Unsuitable extinguishing media: water jet.

5.2 Special hazards arising from the substance or mixture

If involved in fire, the container may explode emitting irritant fumes and toxic gases (carbon oxide) and projecting particles of metal.

5.3 Advice for firefighters

Never extinguish a fire unless you are sure to promptly detect the gas leak or you are sure that the leaking gas is not able to rekindle: it is preferable to have a fire release rather than a cloud of gas expanding toward an ignition source. Call the Fire Brigade if unsure to be able to extinguish the fire in a timely manner using the extinguishing media available.
Please remember that the product, if released, is denser than the air and it tends to stay close to the floor.
Use nebulised water to cool down the containers exposed to fire and to reduce the fire extent.
In case of fire, use an approved self-contained breathing apparatus (EN 137 type), gloves and emergency protective clothes).

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: check for explosions (presence of trigger sources, damaged containers), remove the ignition sources and provide sufficient ventilation to the rooms. Inform people nearby, and those who are downwind in particular, of the gas leak and the subsequent danger of fire and possible explosion. Please remember that the gas is heavier than the air and therefore it tends to stratify on the floor. Implement other procedures as provided for by the emergency plan (if any). If a relevant accident is assumed (Italian Legislative Decree 17/08/1999, No. 334 as amended) inform the local authorities.
For emergency responders: wear protective (antistatic) clothes and PPE to prevent inhalation and either skin or eye contact, and follow the emergency procedures (refer to Section 8).
Please remember that the gas is heavier than the air and therefore it tends to stratify on the floor. The gas in the air may generate an explosive atmosphere even with a minimum source of ignition. Containers too, if exposed to heat sources, may explode.

6.2 Environmental precautions

Curb the leakage, and prevent any liquid residues from getting into the superficial waters and the sewers. Please refer to Sections 12 and 13.

6.3 Methods and material for containment and cleaning up

If the product has not evaporated, clean and collect all the residues using absorbing material (sand, sepiolite, cement, sawdust) if necessary. Never use metallic objects for such operations. Leave the contaminated materials outdoors before disposing of the resulting materials. Please refer to Sections 12 and 13.

6.4 Reference to other sections

Any information about personal protection and disposal are available in Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

The product may generate explosive atmospheres. Handle the receptacles with care.
Make sure that the workplace or in any case the place where the gas is used is properly ventilated.
Apply the non smoking notice. Do not vaporize/spray the gas on open flames or any other burning item.
Avoid any physical damage to the container (corrosion, tumble, mechanical action).
Check for gas leaks (water and soap solution) far from any ignition source (flames, sparks, ionizing radiations, laser radiations, microwaves, static electricity).
Avoid liquefied and compressed gas splashes coming into contact with eyes or skin. Do not breath the gas as it is nor as resulting from combustion (use the PPE indicated in Section 8).
Do not eat, drink or smoke while using the product.

7.2. Conditions for safe storage, including any incompatibilities

Keep the gas in its original containers, sealed, and in a cold place far from heat (at a temperature below 50°C), and far from flames and sparks.
The places where fuel gas is stored must be duly ventilated and separated from the deposits of other oxidizing or comburent agents (oxygen, nitrous oxide) as well as from deposits of incompatible substances as per Section 10.

7.2 Specific end uses

End uses other than those indicated in subsection 1.2 are not recommended.
Please refer to technical instructions for a safe use of the product (see Section 16). In particular, read the cartridge insertion instructions carefully before using it.

8. PERSONAL PROTECTION EXPOSURE CONTROL

8.1 Control parameters

As for acetone and pentane, limits of professional exposure are fixed by community legislation (Italian Legislative Decree No. 81 dated 09/04/2008, Directives 2000/39/EC and 2006/15/EC). Time-Weighted Average limit values during 8 hours (TWA) are also fixed by the American Conference of Governmental Industrial Hygienists (ACGIH, USA, 2010).
Avoid exposure to background concentration exceeding:

Substance	Statutory source	Limit value for 8 hours (TWA)	Limit value for short exposure – STEL / IDLH (1)
n-butane and isobutane	NIOSH, 2010	800 ppm	=
propane	NIOSH, 1994	=	2100 ppm (v/v)
propylene	ACGIH, USA, 2010	500 ppm	=
acetone	D.Lgs. 09/04/2008, n. 81	500 ppm	=
	ACGIH, USA, 2010	500 ppm	750 ppm
pentane	D.Lgs. 09/04/2008, n. 81	667 ppm	=
	ACGIH, USA, 2010	600 ppm	=
aliphatic hydrocarbons C1-C4	ACGIH, USA, 2010	1000 ppm (v/v)	=
carbon oxide	ACGIH, USA, 2010	25 ppm (v/v)	=

(1) Value above which exposition shall be avoided, referring to a hazard within 15-30 minutes

8.2 Exposure controls

8.2.1 Professional exposure control

Assess risks according to Italian Legislative Decree 81/2008, as amended. The following protective equipment is indicated, with specifications by the manufacturer of protective equipment:

- for the respiratory tract: in case of inadequate ventilation, wear a full-face mask (EN 136 type) with an organic vapour filter or even better a self-contained breathing apparatus (EN 137 type) with full-face mask.
- for the hands: thermal insulating gloves (EN 511 type). Possibility of superficial cooling up to - 50°C.
- for the eyes: monogoggles (EN 166 type), face shield.
- for the skin: work clothes (EN 340 type).

8.2.2 Environmental exposure control

Always operate in a well stocked area, equipped with ventilation systems and emergency equipment (extinguishers).
Please refer to the environmental pollution regulation in force - Italian Legislative Decree 03/04/2006, No. 152 as amended.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	**Appearance**	Pressurized liquid, gas at 15.6 °C and 1 bar. Colourless.
b)	**Odour**	Typical of the odorized fuel gas, lightly aromatic
c)	**Odour threshold**	n-butane: between 2.9 and 14.6 mg/m^3 propylene: between 39.6 and 116.27 mg/m^3 acetone: between 47.5 and 1613.9 mg/m3
d)	**pH at 20°C**	not relevant
e)	**Freezing point**	lower than 0°C
f)	**Boiling point**	- 0.5 °C
g)	**Flash point**	n-butane: - 60°C isobutane: - 82 °C propane: - 104.4 °C propylene: - 108 °C acetone: - 74 °C
h)	**Evaporation rate**	the liquid evaporates quickly in the atmosphere, causing a sharp cooling of contact surfaces
i)	**Flammability**	Flammable gas with air (at 20 °C and 101.3 kPa)
j)	**Upper/lower flammability limits**	the flammable gas / air mixtures may explode, if the gas is in concentration ranging from the lower explosion limit (LEL) and the upper explosion limit (UEL): n-butane: LEL = 1.8% and UEL = 8.4% isobutane: LEL = 1.8% and UEL = 9.8% propane: LEL = 2.2% and UEL = 10% propylene: LEL = 2.4% and UEL = 10.3% acetone: LEL = 2.5% and UEL = 12.8%
k)	**Vapour pressure**	n-butane: 1820 mmHg at 25°C isobutane: 2611 mmHg at 25°C propane: 7150 mmHg at 25°C acetone: 231 mmHg at 25°C
l)	**Relative vapour density**	n-butane and isobutane: 2.07 (air=1) propane: 1.56 (air=1) propylene: 1.49 (air=1)
m)	**Relative density**	n-butane and isobutane: 0.6 (water=1) propane: 0.5 (water=1) acetone: 0.8 (water=1)
n)	**Solubility**	
	Water solubility	n-butane: 61.2 mg/l at 25°C isobutane: 48.9 mg/L at 25°C

		propane: 62.4 ppm at 25°C propylene: 200 mg/L at 25°C
	Fat solubility	soluble in ether, chloroform
o)	**Partition coefficient (n-octanol/water)**	Log Kow: n-butane: 2.89 isobutane: 2.76 propane: 2.36 acetone: -0.24
p)	**Auto-ignition temperature**	not tested on the mixture
q)	**Decomposition temperature**	univocal values not available in scientific literature
r)	**Viscosity;**	n-butane: 0.30 cSt at 20°C (liquid) propane: 0.20 cSt at 20°C (liquid) acetone: 0.32 cSt at 20°C
s)	**Explosive properties**	none
t)	**Critical temperature**	n-butane: 153.2°C isobutane: 134.69°C propane: 96.81°C propylene: 91.8°C
u)	**Critical pressure**	butane: 35.7 atm Isobutane: 35.82 atm propane: 42.01 atm propylene: 45.6 °C

9.2 Other information

None.

10. STABILITY AND REACTIVITY

10.1 Reactivity

The container explosion or opening due to inadequate storage conditions may immediately generate an explosive atmosphere (refer to Subsection 10.3).

10.2 Stability

The strong heating of containers causes a quick decompression and a subsequent gas leak. For handling instructions, please refer to Section 7. Also refer to Subsection 10.4.

10.3 Possibility of hazardous reactions

Contact with highly oxidizing agents (hypochlorites, nitrates, perchlorites, permanganates, bichromates) causes a strong reaction, it may strongly react with comburent substances (peroxides, chlorine dioxide, nitrogen dioxide). Also the contact with halogens, chlorine, fluorine, and acetylene may cause strong exothermic reactions. Adding carbonyl nickel to the mixture of n-butane and oxygen may cause explosions at 20-40°C.

10.4 Conditions to avoid

Implement precautionary measures to avoid cylinder exposure to direct sunlight and heat sources. Do not expose to temperatures above 50°C. Avoid conditions which may cause corrosion and breakage of containers.

10.5 Incompatible materials

Highly oxidizing agents, comburents, halogens, chlorine, fluorine, and acetylene.

10.6 Hazardous decomposition products

Toxic gases (carbon oxide) and highly flammable gases (hydrogen, ethylene), irritating carbon fumes.

11. TOXICOLOGICAL INFORMATION

There are no experimental data available concerning the mixture.

11.1 Information on toxicological effects

Acute toxicity:

Inhalation: n-butane – EC50 = 658 mg/l/4 h (rats) – information on humans is inconclusive
isobutane – EC50 = 570000 ppm (rats) – information on humans is inconclusive
propane – EC50 = 280000 ppm (rats) – information on humans is inconclusive
propylene – values on animal studies not reliable – information on humans is inconclusive
acetone – EC100=20,000 ppm/8hrs (guinea pig) – information on humans indicate that there is an effect of depression of the central nervous system and a possible derangement at 700-800 ppm.

Ingestion: acetone: LD50 = 3000 mg/kg bw (mouse); LD50 = 5340 mg/kg bw (rabbit)
pentane: data not available
LPG: data not available (technically impossible to be tested using conventional methods)

Skin/Eye contact: inconclusive information on both humans and animals, data not available for LPG (technically impossible to be tested using conventional methods)

Irritation:

Inhalation: n-butane – information on humans is inconclusive
isobutane – information on humans is inconclusive
propane – irritation with concentrations of 100,000 ppm – inconclusive data
acetone – information on humans is inconclusive

Ingestion: data not available (technically impossible to be tested using conventional methods)

Skin/Eye contact: acetone: concentrations of 1660 ppm for 15 minutes on humans cause eye and nose irritation; information on humans as for the other components of the mixture are inconclusive

Corrosion:

information on humans indicates that this effect is not present (but in its liquid phase it causes cold burns)

Sensitisation:

Absence of specific data

Repeated dose toxicity:

Information on humans indicates that this effect is not present

Carcinogenicity, mutagenicity, and reproductive toxicity:

There are no conclusive results (humans, animals) concerning either carcinogenic or mutagenic effects, nor effects affecting reproduction (teratogenicity, embriotoxicity) for the product components.

Related symptoms:

Inhalation: inhaling vapours containing the product may cause irritation to the mucosae and apnoea. Absorbing the gas causes a narcotic effect (depression of the central nervous system), so it may lead to vertigo or asphyxiation with no warning symptoms. Effects on lung and heart functionality (arrhythmia, cardiac arrest) may be associated to the highest concentrations (1% - 10% in the air).

Skin/Eye contact: if liquid, there is the possibility of freezing with a subsequent lesion of the skin/eye tissue.

Ingestion: the liquid phase determines the immediate freezing and may cause severe damages to both mucosae and tissues in the mouth, oesophagus, and stomach.

12. ECOLOGICAL INFORMATION

There are no experimental data available concerning the mixture.

12.1 Toxicity

acetone: LC50/24hrs (Oncorhynchus mykiss) = 6100 mg/L
EC50/24hrs (Daphnia magna) = 10 mg/L
EC50/7d (Lemna minor) = 11.4 g/L

As for the other components of the mixture, there are no conclusive evidence concerning harmful effects to the environment.

12.2 Persistence and degradability

The product does not appear to cause damages to the activated sludge in biological treatment plants. The organic substances contained in the products result to be biodegradable.

12.3 Bioaccumulative potential

The bioconcentration factors (Log BCF ranging from 0.7 and 2, estimated for the substances contained) suggest that the bioconcentration is potentially limited. Please note that, also in this case and considering the gas solubility in the water and the gas content in the product, volatilization in the atmosphere is expected to be a dominant process.

12.4 Mobility in soil

The product diffuse in soil, water, and air.

12.5 Results of PBT and vPvB assessment

Information not available.

12.6 Other adverse effects

Emitting hydrocarbons and organic solvents in the atmosphere contributes to the photochemical creation of ozone, a hazardous gas at atmospherical level, and to the creation of organic nitrates.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The product makes hazardous all the wastes which contain residuals of it due to flammability and possible creation of explosive atmospheres.
Avoid compression or in any case damages to containers. As for the wastes, implement the same safety regulations provided for the product itself, in particular do not pierce or burn the container.
Collect wastes (both product and contaminated packing) and give them to companies which are specifically qualified and authorized to dispose flammable hazardous wastes.
Please refer to the regulation in force concerning the disposal of hazardous wastes (Italian Legislative Decree 152/2006, as amended).

14. TRANSPORT INFORMATION

Road and rail transport ADR / RID (2009):

Class ADR / RID: 2
Classification code: 5F
UN number: 2037
UN shipping name: Receptacles, small, containing gas (gas cartridges) without a release device, non-Refillable
Hazard label: 2.1
Packaging group: -
Description of goods: Non-reusable cartridge containing pressurized gas.

Exemptions related to quantities carried per transport unit (1.1.3.6 ADR 2011) = category 2 = 333 Kg

Limited quantities (3.4 ADR 2011) = 1 litre
To take advantage of the exemption related to the limited quantities, the product shall be:

- packed in external package with a gross mass ≤ than 30 kg per parcel

or

- packed in tray with either shrinking or stretch film with a gross mass ≤ than 20 kg per parcel

The "small receptacles containing gas" (or alternatively the aerosols), whose capacity does not exceed 50 ml, are not subject to any other ADR disposition provided that they contain non toxic components only.

Maritime transport IMDG (2008 amdt 34-08):

Class IMDG: 2
UN number: 2037
UN shipping name: "Receptacles, small, containing gas (gas cartridges) without a release device, non-Refillable"
“Receptacles, small, containing gas (gas cartridges) without a release device, non-Refillable”
Label: 2.1
Packaging group: -
EMS number: F-D, S-U
Marine pollutant: No
Description of goods: Non-reusable cartridge containing pressurized gas.

Air transport ICAO / IATA (2009):

Class ICAO / IATA: 2.1

UN number: 2037
UN shipping name: "Receptacles, small, containing gas (gas cartridges) without a release device, non-Refillable"
"Receptacles, small, containing gas (gas cartridges) without a release device, non-Refillable"
Label: 2.1
Packaging group: -
Description of goods: Non-reusable cartridge containing pressurized gas.
Pkg inst Y203 (Ltd Qty)
Pkg inst: 203
ERG: 10L
EQ: E0

15. REGULATORY INFORMATION

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

Risk of relevant accident: product included in Annex 1, part 2 of Italian Legislative Decree 334/99 due to its flammable properties. Without prejudice to the provisions and the exclusions of the above mentioned regulation, for storages exceeding the quantities indicated in that annex, please refer to article 6, 7 or 8 of the above mentioned regulation.

Restrictions on placing on the market and use: no restrictions based on Annex XVII to the Regulation EC 1907/2006 (REACH), as amended

Substances in Candidate List (Art. 59 REACH): None.

Substances subject to authorization (Annex XIV REACH): None.

15.2 Chemical safety assessment

A chemical safety assessment has not been elaborated for this mixtures nor for the substance it contains.

16. OTHER INFORMATION

Text of the hazard indicators (H) mentioned in Sections 2 and 3 of this data sheet
Flam. Gas 1 – Flammable gas, cat. 1
Press. Gas – Pressurized gas
H220 – Highly flammable gas
H280 – It contains pressurized gas: it may explode when heated

Text of the risk phrases (R) mentioned in Sections 2 and 3 of this Data Sheet
F+ – Extremely flammable
R12 – Extremely flammable

Indications concerning this revised version
Each section of this data sheet has been revised due to the updating of the regulation and the information concerning safety and health of workers and environment. In particular:
- classification and labelling have been revised to comply with Regulation EC 1272/2008;
- form and substance required for Safety Data Sheets have been revised in accordance with changes to Regulation EC 1907/2006 occurred when the Regulation EU 453/2010 came into effect. This Data Sheet has been written in compliance with the provisions of Annex II to Regulation EU 453/2010, pursuant to art. 2 (paragraph 3) of the same Regulation.

Main literature references and sources for data

- Safety Data Sheets of raw materials
- National Institute for Occupational Safety and Health (NIOSH, USA): Registry of Toxic Effects of Chemical Substances, 2010.
- American Conference of Governmental Industrial Hygienists (ACGIH), 2010.
- The National Library of Medicine (USA): Hazardous Substances Data Bank (HSDB), ed. 2010.
- Environmental Protection Agency (USA): Integrated Risk Information System (IRIS), ed. 2006.
- Department of Transportation (USA): Chemical Hazard Response Information System (CHRIS), ed. 2006.
- CRC Press (USA): Handbook of Chemistry and Physics, 77^ ed., 1997.
- Institut National de Recherche et de Sècuritè (INRS - F): Les Melanges Explosifs, ed. 1994.
- NIOSH Pocket Guide to Chemical Hazards & Other Databases. U.S. Department of Health & Human Services, Public Health Service, Center for Disease Control & Prevention. DHHS (NIOSH) Publication No. 2001-145 (CD-ROM) August 2001
- Daubert, T.E., R.P. Danner. Physical and Thermodynamic Properties of Pure Chemicals Data Compilation. Washington, D.C.: Taylor and Francis, 1989.
- O'Neil, M.J. (ed.). The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals. 13th Edition, Whitehouse Station, NJ: Merck and Co., Inc., 2001., p. 1397

Advice on training

Staff in charge of handling and using the product must be trained on specific risks and safety measures.
Written references: Please refer to technical instructions indicated on the product
Technical Contact Centre: Telephone +39.030.9911855

Notes for users

The information provided in this Data Sheet are based on our present knowledge about safety, health and environment. It aims at enabling the professional user of the product to identify both preventive and protective measures for safe operations.
The user of the product, prior to use the product for purposes different from the ones indicated, shall verify whether further information is needed, provided the relevant legislation and the operational good practice.
No liability is accepted for any improper or incorrect usage of the product.
The features mentioned shall not be considered as warranty of specific properties of the product.
Always present either the label or the Data Sheet of the product when consulting a physician.