

LEAK DETECTOR

Signal words: Danger

Hazard statements:

H222 Extremely flammable aerosol.
H229 Pressurised container: may burst if heated.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 Do not pierce or burn, even after use.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P211 Do not spray on an open flame or other ignition source.

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
BUTANE		
CAS 106-97-8	2,5 ≤ x < 3	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C U
EC 203-448-7		
INDEX 601-004-00-0		
Reg. no. 01-2119474691-32-XXXX		
SODIUM NITRITE		
CAS 7632-00-0	2,5 ≤ x < 3	Ox. Sol. 2 H272, Acute Tox. 3 H301, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1
EC 231-555-9		
INDEX 007-010-00-4		
Reg. no. 01-2119471836-27-XXXX		
PROPANE		
CAS 74-98-6	2,5 ≤ x < 3	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U
EC 200-827-9		
INDEX 601-003-00-5		
Reg. no. 01-2119486944-21-XXXX		
ISOBUTANE		

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
NOR	TLV-ACGIH	ACGIH 2019
	RCP TLV	ACGIH TLVs and BEIs – Appendix H

ISOBUTANE

Threshold Limit Value

LEAK DETECTOR

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
RCP TLV			1000	RESP

**PROPANE
Threshold Limit Value**

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLA	ESP		1000	
TLV	NOR	900	500	
TLV-ACGIH			1000	

SODIUM NITRITE

Predicted no-effect concentration - PNEC				
Normal value in fresh water			0,005	mg/l
Normal value in marine water			0,006	mg/l
Normal value for fresh water sediment			0,019	mg/kg
Normal value for marine water sediment			0,022	mg/kg
Normal value of STP microorganisms			21	mg/l
Normal value for the terrestrial compartment			0,001	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation						2 mg/m3		2 mg/m3

**BUTANE
Threshold Limit Value**

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLA	ESP		1000	Gases
VLEP	FRA	1900	800	
WEL	GBR	1450	600	1810 750
TLV	NOR	600	250	
TLV-ACGIH				1000

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

LEAK DETECTOR**HAND PROTECTION**

None required.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

ISOBUTANE

Suitable glove material protective gloves, e.g. nitrile butadiene rubber gloves (NBR), leather gloves, heat insulating

Selection of protective gloves to meet specific workplace requirements.

Suitability for specific workplaces must be clarified with the manufacturers of protective gloves.

The information is based on our tests, references from literature and information from glove manufacturers or derived by analogy with similar materials.

Remember that the useful time per day of a chemical protection glove can be much shorter than the breakthrough time determined according to EN 374 due to the numerous influencing factors involved.

SODIUM NITRITE

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged direct contact (Recommended: protection index 6, corresponding to > 480 minutes of breakthrough time according to EN 374):

polyvinyl chloride (PVC) - coating thickness 0.7 mm

nitrile rubber (NBR) - coating thickness of 0.4 mm

chloroprene rubber (CR) - coating thickness 0.5 mm

Additional note: specifications are based on tests, literature data and information from glove manufacturers or derive from similar substances by analogy.

Due to many conditions (eg temperature), it should be considered that the practical use of a chemical protective glove in practice can be much shorter than the breakthrough time determined through testing.

The manufacturer's instructions for use must be observed due to the wide variety of types.

SECTION 9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	aerosol
Colour	Not available
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available

LEAK DETECTOR

Boiling range	Not available
Flash point	< 0 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	0,970
Relative density	Not available
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 50,15

SECTION 10. Stability and reactivity**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

ISOBUTANE

Vapors can form an explosive mixture with air.

SODIUM NITRITE

Dangerous reactions in the presence of the mentioned substances to be avoided.

BUTANE

LEAK DETECTOR

Vapors can form an explosive mixture with air.

10.4. Conditions to avoid

Avoid overheating.

ISOBUTANE

Keep away from heat and other causes of fire.

SODIUM NITRITE

Reducing agents, oxidizable substances, ammonium salts, amines, amino compounds, acids

BUTANE

Avoid heat and sources of ignition.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

BUTANE

Strong oxidizing agents, chlorine, oxygen.

10.6. Hazardous decomposition products

ISOBUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO₂).

SODIUM NITRITE

Thermal decomposition: > 320 ° C
nitrogen monoxide, nitrogen dioxide, disodium oxide

BUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO₂).

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:

>2000 mg/kg

LD50 (Dermal) of the mixture:

Not classified (no significant component)

PROPANE

Method: To study the concentrations at which the effects of the CNS occur following exposure by inhalation to propane by measuring LC50 (15 min) and EC50 (CNS) (10 min) in rats.

Reliability: 2

Species: Rat (Alderley Park (SPF); male / female)

Route of exposure: Inhalation

Results: LC50 > 800 000 ppm

BUTANE

Method: Not indicated

Reliability: 2

Species: Rat (Alderley Park (SPF); male / female)

Route of exposure: Inhalation

Results: LC50: 1 443 mg / L air

SKIN CORROSION / IRRITATION

LEAK DETECTOR

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

PROPANE

Method: OECD 471 in vitro test

Reliability: 1

Species: Histidine Salmonella

Results: Negative with or without metabolic activation

Method: OECD 474-test in vivo

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation (gas)

Results: Negative

BUTANE

Method: OECD 471 in vitro test

Reliability: 1

Species: Salmonella strains, S. typhimurium

Results: Negative without metabolic activation

Method: OECD 474-test in vivo

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation (gas)

Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation

Results: NOAEC 10000 ppm

Adverse effects on sexual function and fertility

PROPANE

LEAK DETECTOR

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation

Results: NOAEC (fertility) 10 000 ppm

Adverse effects on development of the offspring

PROPANE

Method: EPA OPPTS 870.3700

Reliability: 1

Species: Rat (VAF / Plus®, Sprague-Dawley Derived (CD®) CrI: CD® IGS BR)

Route of exposure: Inhalation (gas)

Results: NOAEC (development) 10 426 ppm

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

PROPANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

SODIUM NITRITE

Based on available data and through expert judgment, the substance is not classified in the target organ hazard class for single exposure.

BUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

PROPANE

Method: OECD 422

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (gas)

Results: NOAEC 16 000 ppm

SODIUM NITRITE

Based on available data and through expert judgment, the substance is not classified in the target organ hazard class for prolonged or repeated exposure.

LEAK DETECTOR

BUTANE

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (gas)

Results: NOAEC = 10000 ppm

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

12.1. Toxicity

SODIUM NITRITE

LC50 - for Fish

0,79 mg/l/96h *Oncorhynchus mykiss*

EC50 - for Crustacea

23,31 mg/l/48h *Penaeus monodon*

EC50 - for Algae / Aquatic Plants

159 mg/l/72h *Tetraseimis chui***12.2. Persistence and degradability**

BUTANE

Quickly degradable in water.

BUTANE

Solubility in water

0,1 - 100 mg/l

Rapidly degradable

SODIUM NITRITE

Solubility in water

848000 mg/l

Degradability: information not available

PROPANE

Solubility in water

0,1 - 100 mg/l

Rapidly degradable

12.3. Bioaccumulative potential

BUTANE

Partition coefficient: n-octanol/water

1,09

SODIUM NITRITE

LEAK DETECTOR

Partition coefficient: n-octanol/water -3,7

PROPANE

Partition coefficient: n-octanol/water 1,09

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

ISOBUTANE

Compliance with local regulations, e.g. incineration through flaring system.

No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.

The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

SODIUM NITRITE

Contact the manufacturer for recycling. Check for recycling. Contact the waste center for recycling

BUTANE

No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.

The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

SECTION 14. Transport information**14.1. UN number**

ADR / RID, IMDG, 1950

IATA:

14.2. UN proper shipping name

LEAK DETECTOR

ADR / RID: AEROSOLS
 IMDG: AEROSOLS
 IATA: AEROSOLS, FLAMMABLE

14.3. Transport hazard class(es)

ADR / RID: Class: 2 Label: 2.1
 IMDG: Class: 2 Label: 2.1
 IATA: Class: 2 Label: 2.1

**14.4. Packing group**

ADR / RID, IMDG, -
 IATA:

14.5. Environmental hazards

ADR / RID: NO
 IMDG: NO
 IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
	Special Provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special Instructions:	A145, A167, A802	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: P3a

LEAK DETECTOR

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Gas 1A	Flammable gas, category 1A
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Ox. Sol. 2	Oxidising solid, category 2
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Acute Tox. 3	Acute toxicity, category 3
Eye Irrit. 2	Eye irritation, category 2
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.

LEAK DETECTOR

H229	Pressurised container: may burst if heated.
H272	May intensify fire; oxidiser.
H280	Contains gas under pressure; may burst if heated.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website

LEAK DETECTOR

- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Product's classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.