



## Safety Data Sheet

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006

Product name INERGEN®

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

#### 1.1. Product Identifier

Product code 441419H  
Product name INERGEN®

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

Recommended use No information available  
Uses advised against No information available

#### 1.3. Details of the supplier of the safety data sheet

Company Name Macron Safety Systems (UK) Ltd.  
Burlingham House, Hewett Road  
Gapton Hall Industrial Estate, Great Yarmouth  
United Kingdom NR31 0NN  
Telephone: +44 (0) 1493 417600

#### For further information, please contact

psra@tycofp.com

#### 1.4. Emergency telephone number

CHEMTREC 001-800-424-9300 or 001-703-527-3887

National Poisons Information Centre (NPIC)  
+353-1809 2566

### **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Gases Under Pressure - Compressed Gas - (H280)

### 2.2. Label Elements



#### Signal Word

WARNING

#### Hazard Statements

H280 - Contains gas under pressure; may explode if heated

#### Precautionary Statements

P410 + P403 - Protect from sunlight. Store in a well-ventilated place

### 2.3. Other Hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not Applicable

### 3.2 Mixture

Chemical name	Index No	EC No	CAS No	weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Nitrogen		231-783-9	7727-37-9	50 - 60%	Press. Gas (H280)	no data available
Argon		231-147-0	7440-37-1	40 - 50%	Not classified	no data available
Carbon Dioxide		204-696-9	124-38-9	0 - 10%	Press. Gas (H280)	no data available

Full text of H- and EUH-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General Advice

Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

#### Skin contact

Wash skin with soap and water. Get medical attention if irritation develops and persists.

#### Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.



Consult a doctor.

**Ingestion**

Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control centre or physician immediately.

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**4.2. Most important symptoms and effects, both acute and delayed****Symptoms**

Unconsciousness.

**4.3. Indication of any immediate medical attention and special treatment needed****Note to doctors**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

None

**5.2. Special hazards arising from the substance or mixture**

None known.

**Hazardous Combustion Products**

Carbon oxides. Nitrogen oxides (NOx).

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation, especially in confined areas.

Use personal protection recommended in Section 8.

Ventilate the area.

**6.2. Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

**6.3. Methods and material for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up**

Pick up and transfer to properly labelled containers.

**6.4. Reference to other sections**

See section 8 for more information. See section 13 for more information.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

**7.3. Specific end use(s)****Specific Use(s)**

Fire extinguishing agent.

**Risk Management Methods (RMM)**

The information required is contained in this Safety Data Sheet.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure Limits**

Chemical name	European Union	United Kingdom	France	Spain	Germany
Carbon Dioxide 124-38-9	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	STEL: 15000 ppm STEL: 27400 mg/m <sup>3</sup> TWA: 5000 ppm TWA: 9150 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9150 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9100 mg/m <sup>3</sup> Ceiling / Peak: 10000 ppm Ceiling / Peak: 18200 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Carbon Dioxide 124-38-9	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	STEL: 30000 ppm TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9100 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Carbon Dioxide 124-38-9	STEL 10000 ppm STEL 18000 mg/m <sup>3</sup> TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	STEL: 27000 mg/m <sup>3</sup> TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup> STEL: 15000 ppm STEL: 27000 mg/m <sup>3</sup>
Chemical name	Czech Republic	Russia	Hungary	Greece	Sweden
Carbon Dioxide 124-38-9	Ceiling: 45000 mg/m <sup>3</sup> TWA: 9000 mg/m <sup>3</sup>	TWA: 9000 mg/m <sup>3</sup> STEL: 27000 mg/m <sup>3</sup>	TWA: 9000 mg/m <sup>3</sup>	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup> STEL: 5000 ppm STEL: 54000 mg/m <sup>3</sup>	TLV: 5000 ppm TLV: 9000 mg/m <sup>3</sup> STEL: 10000 ppm STEL: 18000 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

<b>Engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/Face Protection</b>	Avoid contact with eyes. Tight sealing safety goggles.
<b>Hand protection</b>	Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves. Gloves must conform to standard EN 374.
<b>Skin and Body Protection</b>	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
<b>Respiratory Protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator conforming to EN 140 with Type A filter or better.
<b>Environmental exposure controls</b>	No information available.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

<b>Physical State</b>	Compressed Gas		
<b>Odour</b>	None	<b>Colour</b>	Colourless
<b>Odour Threshold</b>	No data available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No data available
Melting Point / Freezing Point		No data available
Boiling point / boiling range	-196 °C	
Flash Point		No data available
Evaporation Rate		No data available
Flammability (solid, gas)		No data available
Flammability limit in air		
Upper flammability limit:		No data available
Lower flammability limit:		No data available
Vapour Pressure		No data available
Vapour Density		No data available
Specific gravity		No data available
Water Solubility		No data available
solubility(ies)		No data available
Partition coefficient		No data available
Autoignition Temperature		No data available
Decomposition Temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Explosive Properties	No data available	
Oxidising Properties	No data available	

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available.

**10.2. Chemical stability**

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

None under normal processing.

#### **Hazardous Polymerisation**

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

### 10.5. Incompatible materials

Strong oxidising agents. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NO<sub>x</sub>).

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

#### **Acute Toxicity**

#### **Product information**

<b>Inhalation</b>	In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. In confined or poorly ventilated areas, vapours can readily accumulate and can cause unconsciousness and death.
<b>Eye Contact</b>	Contact with product may cause frostbite.
<b>Skin contact</b>	Contact with product may cause frostbite.
<b>Ingestion</b>	Not an expected route of exposure.
<b>Skin Corrosion/Irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Sensitisation</b>	No information available.
<b>Germ Cell Mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive Toxicity</b>	Lack of oxygen during pregnancy has produced developmental abnormalities in humans and experimental animals.
<b>STOT - Single Exposure</b>	No information available.
<b>STOT - Repeated Exposure</b>	No information available.
<b>Symptoms</b>	Unconsciousness.
<b>Aspiration Hazard</b>	No information available.

## **SECTION 12: Ecological information**

**12.1. Toxicity****12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

**12.6. Other adverse effects**

No information available

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

<b>Waste from Residues/Unused Products</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	Do not re-use container.

**SECTION 14: Transport information****IMDG**

<b>14.1 UN/ID no</b>	UN1956
<b>14.2</b>	
<b>Proper Shipping Name</b>	Compressed gas, n.o.s.
<b>14.3 Hazard class</b>	2.2
<b>14.4 Packing group</b>	NOT REGULATED
<b>Description</b>	UN1956, Compressed gas, n.o.s., 2.2
<b>14.5</b>	
<b>14.6 Special Provisions</b>	None
<b>EmS-No</b>	F-C, S-V
<b>14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC CODE</b>	No information available

**RID**

<b>14.1 UN/ID no</b>	UN1956
<b>14.2</b>	
<b>Proper Shipping Name</b>	Compressed gas, n.o.s.

<b>14.3 Hazard class</b>	2.2
Labels	2.2 (+13)
<b>14.4 Packing group</b>	NOT REGULATED
Description	UN1956, Compressed gas, n.o.s., 2.2 (13)
<b>14.5 Environmental Hazard</b>	Not Applicable
Classification Code	1A
<b>14.6 Special Provisions</b>	None

**ADR**

<b>14.1 UN/ID no</b>	UN1956
<b>14.2</b>	
<b>Proper Shipping Name</b>	Compressed gas, n.o.s.
<b>14.3 Hazard class</b>	2.2
Labels	2.2
<b>14.4 Packing group</b>	NOT REGULATED
Description	UN1956, Compressed gas, n.o.s., 2.2, (E)
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None
Classification Code	1A
Tunnel restriction code	(E)

**ICAO (air)**

<b>14.1 UN/ID no</b>	UN1956
<b>14.2</b>	
<b>Proper Shipping Name</b>	Compressed gas, n.o.s.
<b>14.3 Hazard class</b>	2.2
<b>14.4 Packing group</b>	NOT REGULATED
Description	UN1956, Compressed gas, n.o.s., 2.2
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None

**IATA**

<b>14.1 UN/ID no</b>	UN1956
<b>14.2</b>	
<b>Proper Shipping Name</b>	Compressed gas, n.o.s.
<b>14.3 Hazard class</b>	2.2
<b>14.4 Packing group</b>	NOT REGULATED
Description	UN1956, Compressed gas, n.o.s., 2.2
<b>14.5 Environmental Hazard</b>	Not Applicable
<b>14.6 Special Provisions</b>	None
ERG Code	2L

**SECTION 15: Regulatory information**

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

**Germany**  
 Water hazard class (WGK) Not defined

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work



**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

**Persistent Organic Pollutants**

Not Applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009** Not Applicable

**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
AICS - Australian Inventory of Chemical Substances

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H280 - Contains gas under pressure; may explode if heated

**Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend SECTION 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Revision date** 09-Oct-2019

**Revision note** SDS sections updated, 3, 14.

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other



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materials or in any process, unless specified in the text.

**End of Safety Data Sheet**