	<b>SAFETY DATA SHEET</b> In accordance with the criteria of Regulation No 1907/2006 (REACH) as amended	
	<b><u>Fire extinguisher containing liquid carbon dioxide</u></b>	
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## **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

Fire extinguisher containing liquid carbon dioxide

**Chemical name:** Carbon dioxide [CAS: 124-38-9, EC: 204-696-9].

**The registration number:** According to art. 2, point 7, para. a Regulation 1907/2006 (REACH) registration is not required.

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

**Relevant identified uses:** Fire extinguishing agent.

**Uses advised against:** Not determined.

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

**Supplier:** Ogniochron S.A.

**Address:** Poland PL; 34-120 Andrychów; Przemysłowa 42 Street

**Telephone/Fax:** (+48) 33 875 10 70 / (+48) 33 875 10 77

**E-mail address** of the person responsible for the SDS: [biuro@ogniochron.eu](mailto:biuro@ogniochron.eu)

### **1.4. Emergency telephone number**

112 (emergency call)

## **SECTION 2: Hazards identification**

### **2.1. Classification of the substance or mixture**

**Classification according to 1272/2008/EC:**

Press. Gas; H281

**Hazards to man:** Does not meet the criteria of classification.

**Hazards to environment:** Does not meet the criteria of classification as dangerous for the environment.

**Hazard from physical and chemical properties:** Contains refrigerated gas; may cause cryogenic burns or injury.

In section 16 stated the importance of H-phrases and symbols.

### **2.2. Label elements**

**Label accordance with Regulation 1272/2008/EC (CLP):**

**Hazard pictogram, signal words:**



**Warning**

**Hazard statements:**

H281 - Contains refrigerated gas; may cause cryogenic burns or injury.



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#### **Precautionary statements:**

P282 - Wear cold insulating gloves and either face shield or eye protection.

P336+P315 - Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

P403 - Store in a well-ventilated place.

**The names of hazardous ingredients on the label:** Carbon dioxide.

#### **2.3. Other hazards**

In high concentrations, carbon dioxide (CO<sub>2</sub>) can be choking. In high concentrations, CO<sub>2</sub> quickly causes cardiovascular failure. Gas / vapor is heavier than air - may accumulate in confined spaces, especially at or below ground level.

Product does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation 1907/2006 (REACH).

The product does not contain ingredients entered in the list established in accordance with Art. 59 paragraph 1 as having endocrine disrupting properties or components with endocrine disrupting properties in accordance with the criteria set out in Regulation 2017/2100/EU or Regulation 2018/605/EU in a concentration equal to or greater than 0.1 %.

### **SECTION 3: Composition/information on ingredients**

#### **3.1. Substances**

<b>Substance name:</b>	<b>Carbon dioxide</b>
<b>Concentration [%]:</b>	≤100
<b>CAS Number:</b>	124-38-9
<b>EC Number:</b>	204-696-9
<b>Index Number:</b>	-
<b>Classification 1272/2008/EC:</b>	Press. Gas; H281

The product does not contain impurities or additives that could affect product's labelling and classification according to Regulation No 1272/2008/EC (CLP).

In section 16 stated the importance of H-phrases and symbols.

#### **3.2. Mixtures**

Not applicable.

### **SECTION 4: First aid measures**

#### **4.1. Description of first aid measures**

**Inhalation:** Move the affected person to fresh air and keep rested. If breathing stops, perform cardiopulmonary resuscitation. Seek medical advice.

**Skin contact:** Remove contaminated clothing. Flush contaminated skin with water. In the case of frostbite, spray the skin with water for at least 15 minutes. Apply a sterile dressing. Get immediate medical advice/attention.

**Eye contact:** Remove any contact lenses. Immediately flush eyes with a plenty of water, occasionally lifting the upper and lower eyelids. Get immediate medical advice/attention.

**Ingestion:** Ingestion is not considered a potential route of exposure.



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#### 4.2. Most important symptoms and effects, both acute and delayed

**Inhalation:** Inhalation of high concentrations of product may cause suffocation. May cause loss of consciousness or mobility. May cause headache, nausea and vomiting. Inhalation of low concentrations of product causes faster breathing and headaches.

**Eye contact:** May cause cryogenic burns.

**Skin contact:** May cause cryogenic burns.

**Ingestion:** Usually, it does not cause negative effects.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Remove affected person from the environment contaminated by the product. In the event of health problems, consult your doctor or the center of toxicological concern. Provide the information contained in the SDS. If unconscious, do not give anything by mouth.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media:** Mist, water spray.

**Unsuitable extinguishing media:** Water jet.

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

In case of fire hazardous products may be formed: carbon oxide. Avoid inhalation of combustion products, because they may pose a health risk.

#### 5.3. Advice for firefighters

Wear full protective equipment and self-contained breathing apparatus with independent air circulation. Containers exposed to fire or high temperature cool with water and if possible remove from the danger zone. Protect drains, surface waters and soil from pollution. Heating a container may cause it to explode / rupture. If possible, use water fog or a finely dispersed water jet to reduce fire smoke. In the event of a leak, do not spray the container with water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** Access of non-emergency personnel to the area of accident should be restricted until the completion of the disposal of the product. Wear appropriate personal protective equipment. Provide adequate ventilation.

**For emergency responders:** Wear appropriate personal protective equipment. Provide adequate ventilation.

#### 6.2. Environmental precautions

Secure the gullies. Prevent contamination of surface water and ground. In the event of any serious pollution of the environment, notify the appropriate administrative authority, control and rescue services. If it possible, try to stop the leak.

#### 6.3. Methods and material for containment and cleaning up

Secure damaged packaging. Collect with inert absorbent materials. Collected product put in a substitute container and direct to the destruction. Liquid spillages can cause embrittlement of structural materials. Ventilate the contaminated area.

#### 6.4. Reference to other sections

Disposal - see Section 13. Personal protective equipment - see Section 8.



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#### **SECTION 7: Handling and storage**

##### **7.1. Precautions for safe handling**

Do not eat, drink, smoke or take drugs at work. Wash your hands before break and after working with the product. Remove contaminated clothing and wash it before reuse. Provide adequate ventilation when using the product. Avoid inhalation of product. Use oxygen detectors when there is a risk of release of suffocating gases. Take action to prevent electrostatic discharge. Prevent water, acid and alkali backflow. Keep the container valve outlet clean and free of debris, especially oil and water. Close the valve after each use and after emptying the container. Protect the cylinder against mechanical damage; do not pull, roll, move or drop. To move the cylinder, use a cart (manual, electric, etc.) designed to transport the cylinder. Gas / vapor is heavier than air - may accumulate in confined spaces, especially at or below ground level.

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

Keep in properly labeled, factory sealed containers, with a label which complies with current regulations. Store in dry and well ventilated place. Keep only in containers specifically permitted for this product. Do not store in corrosive conditions. Containers should be stored in an upright position and properly secured against falling over. Do not store in temperature above 50 ° C. Keep away from sources of ignition and heat. Keep away from combustible materials.

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

Fire extinguishing agent.

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

##### **8.1. Control parameters**

Substance name	TWA	STEL	BLV
<b>Carbon dioxide</b> [CAS: 124-38-9]	9000 mg/m <sup>3</sup> (EU) 9150 mg/m <sup>3</sup> (UK)	27400 mg/m <sup>3</sup> (UK)	-

**Legal basis:** Ordinance on maximum permissible concentration and intensity of harmful factors in the work environment in accordance with national limit values.

[EH40/2005 Workplace exposure limits, fourth edition, published 2020, ISBN 978 0 7176 6733 8.](#)

**Monitoring procedures:** Use methods described in European Standards.

##### **8.2. Exposure controls**

Mandatory general regulations on occupational health. Do not allow to exceed the normative concentrations of hazardous constituents in the workplace. After work, wash and clean the surface of the body and clothing. Do not eat, drink, smoke or take drugs at work. Take off contaminated clothing and wash it before reuse. Wash hands and face before break and after working with the product. Provide adequate ventilation when using the product. It is recommended to use CO<sub>2</sub> detectors and asphyxiating gases.

**Eye/face protection:** Use protective glasses with side shields (in accordance with EN 166). Use goggles and face masks when handling the product.

**Skin Protection:** Use suitable protective gloves against the cold (in accordance with EN 374, EN 388, EN 511). Wear suitable protective clothes and footwear.



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**Respiratory protection:** In case of insufficient ventilation use appropriate respiratory protection e.g. self-contained breathing apparatus or face masks with positive pressure air supply. If short-term exposure exceeding the standard may occur, use gas filters and full-face masks.

**Thermal Hazards:** During handling use protective gloves against cold (in accordance with EN 511).

Used personal protective equipment should meet the requirements of local/regional/national laws. The employer must provide personal protective equipment appropriate to the type of work and in accordance with all requirements, including maintenance and cleaning.

Concentrations of hazardous substances in the workplace should be monitored in accordance with acknowledged test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

**Environmental exposure controls:** The large amount of product should not be allowed to penetrate through the ground water, sewage, waste water or soil.

## **SECTION 9: Physical and chemical properties**

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

<b>Physical state:</b>	Liquid
<b>Colour:</b>	Colorless
<b>Odour:</b>	Odourless
<b>Melting point/freezing point:</b>	78.5 °C
<b>Boiling point or initial boiling point and boiling range:</b>	-56.6 °C
<b>Flammability:</b>	Not applicable
<b>Lower and upper explosion limit:</b>	Not applicable
<b>Flash point:</b>	Not applicable
<b>Auto-ignition temperature:</b>	Not applicable
<b>Decomposition temperature:</b>	Not applicable
<b>pH:</b>	Not specified
<b>Kinematic viscosity:</b>	Not applicable
<b>Solubility:</b>	Soluble in water: 2000 mg/l
<b>Partition coefficient n-octanol/water (log value):</b>	0.83
<b>Vapour pressure:</b>	57.3 bar at 20 °C
<b>Density and/or relative density:</b>	0.82 (liquid)
<b>Relative vapour density:</b>	Not applicable
<b>Particle characteristics:</b>	Not applicable


### **9.2. Other information**

#### **9.2.1. Information with regard to physical hazard classes**

Not specified.

#### **9.2.2. Other safety characteristics**

**Critical temperature:** 30 °C

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not reactive under normal conditions of storage.

### 10.2. Chemical stability

Stable under normal conditions of storage.

### 10.3. Possibility of hazardous reactions

Not specified.

### 10.4. Conditions to avoid

Avoid store in temperature above 50 ° C. Avoid sources of ignition and heat. Avoid contact with combustible materials.

### 10.5. Incompatible materials

Not specified.

### 10.6. Hazardous decomposition products

None under normal conditions of use and storage.

## SECTION 11: Toxicological information

### **11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity:** Based on available data, the classification criteria are not met.

**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

### **11.2. Information on other hazards**

#### **11.2.1. Endocrine disrupting properties**

Not specified.

#### **11.2.2. Other information**

**Inhalation:** Inhalation of high concentrations of product may cause suffocation. May cause loss of consciousness or mobility. May cause headache, nausea and vomiting. Inhalation of low concentrations of product causes faster breathing and headaches.

**Eye contact:** May cause cryogenic burns.

**Skin contact:** May cause cryogenic burns.

**Ingestion:** Usually, it does not cause negative effects.

## SECTION 12: Ecological information

### 12.1. Toxicity

Does not meet the criteria of classification as dangerous for the environment.

### 12.2. Persistence and degradability

Not specified.

### 12.3. Bioaccumulative potential

Not specified.

### 12.4. Mobility in soil

Not specified.



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

Not applicable.

#### 12.6. Endocrine disrupting properties

Not specified.

#### 12.7. Other adverse effects

Emitted in large quantities it can contribute to the greenhouse effect.

Global warming factor = 1 (CO<sub>2</sub> = 1).

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

During removal of waste comply with the regional/national laws.

#### Community legislation:

Directive **2008/98/EC** of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.

European Parliament and Council Directive **94/62/EC** of 20 December 1994 on packaging and packaging waste as amended.

**Disposal methods for the product:** Don't introduce into the environment. Disposal in accordance with the local/national legislation.

**Disposal methods for used packing:** Empty containers give for appropriate rubbish dump or for disposal in accordance with the local/national legislation.

#### Waste code:

**16 05** gases in pressure containers and discarded chemicals.

**16 05 05** gases in pressure containers other than those mentioned in 16 05 04.

### SECTION 14: Transport information

	ADR	RID	AND	ICAO TI	IMDG
14.1. UN number or ID number	UN 3158				
14.2. UN proper shipping name	GAS, REFRIGERATED LIQUID, N.O.S. (carbon dioxide, refrigerated, liquefied)				
14.3. Transport hazard class(es)	2				
14.4. Packing group	Not applicable.				
14.5. Environmental hazards	Does not meet the criteria of classification as dangerous for the environment.				
14.6. Special precautions for user	Personal protective equipment should be used when handling the load - see section 8.				
14.7. Maritime transport in bulk according to IMO instruments	Not specified				

### SECTION 15: Regulatory information

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

**Regulation (EC) No 1907/2006** of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive



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1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.

**Regulation (EC) No 1272/2008** of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.

**Commission Regulation (EU) 2020/878** of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Directive **2008/98/EC** of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.

**European Parliament and Council Directive 94/62/EC** of 20 December 1994 on packaging and packaging waste as amended.

**Commission directive 2000/39/EC** of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

**Commission directive 2006/15/EC** of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.

**Commission directive 2009/161/EU** of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

**Commission directive (EU) 2017/164** of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.

**Regulation (EU) 2016/425** of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

#### **15.2. Chemical safety assessment**

The Chemical Safety Assessment has not been carried out.

#### **SECTION 16: Other information**

##### **The full text of statements H under Sections 2 and 3:**

H281 - Contains refrigerated gas; may cause cryogenic burns or injury.

##### **Key to abbreviations and acronyms:**

BLV - Biological Limit Value.

Press. Gas - Gases under pressure: Refrigerated liquefied gas.

STEL - Short-Term Exposure Limit.

TWA - Time Weighted Average.

##### **Sources of key data:**

Producer SDS from 30<sup>th</sup> March 2018.

**Training advice:** Before use read the SDS.

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are also treated as aid to safety in transport, storage and usage of the product. This does not free the user





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from the responsibility of improper usage of the information above also of improper compliance with the law norms in the field.

SDS from 11.10.2019 (Version 1) has been revised in sections 1.1., 1.3, 2.3., 9.1., 9.2.1., 9.2.2., 11.1., 11.2., 11.2.1., 11.2.2., 12.6., 12.7., 15.1. and 14. Changes have been underlined.

Prepared by ISOTOP Consulting Company; **www.isotop.pl**; e-mail: **reach@isotop.pl**

This SDS replaces and annuls all the previous versions.