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

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## 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

### 1.1 Product identifiers

Product name : EXXFIRE<sup>®</sup> GEN09N2 Cool Gas Generator

**1.2 Relevant identified uses of the substance or mixture and uses advised against identified uses:** Fire extinguishing device releasing nitrogen when activated.

### 1.3 Details of the supplier of the datasheet

Company : ExxFire BV  
Keyserswey 30  
Noordwijk - 2201 CW  
THE NETHERLANDS  
Telephone : +31 85 4017970  
Fax :  
E-mail address : [info@exxfire.com](mailto:info@exxfire.com)

### 1.4 Emergency telephone number

Emergency phone # : +31 30 274 88 88 National Poisonings Information Centre (The Netherlands).

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## 2 HAZARDS IDENTIFICATION

This article contains pyrotechnic components and chemical components that are hermetically sealed off from the environment. These cannot be released under normal or reasonably foreseeable conditions of use including proper disposal.

### 2.1 Classification of the article

Safety device which is electrically initiated.

For the full text of the H-Statements mentioned in this Section, see Section 16.

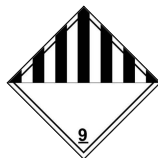
### 2.2 Classification of the content

In normal use, the content of the device cannot be released.

### 2.3 Label elements

#### 2.3.1 Article

Pictograms :



Signal word : Warning.

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### 2.3.2 Content

Pictograms :



GHS06 GHS08 GHS09

Signal word : Toxic and harmful for human and environment.

Precautionary statement(s)

P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.  
 P273 Avoid release to the environment.  
 P370 + P380 In case of fire: Evacuate area.  
 P374 Fight fire with normal precautions from a reasonable distance.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

Other Hazards

Risk of burn injuries in case of direct contact with the surface of the generator when heated by activation.

Unconsciousness due to inhaling nitrogen when generator has been activated.

Potential respiratory tract exposure from the combustion products produced during the operation of the generator (e.g. CO, CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub> traces).

Do not handle device shortly after ignition because of liquid sodium in device.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Article

The chemical part of the device contains the in this chapter mentioned components. Devices shall only be opened by destroying the whole entity. There is no risk to be exposed to the contents of the generator, except in cases of loss of tightness due to mechanical stress.

### 3.2 Content

#### Grain

<i>Ingredient</i>	<i>CAS-number</i>	<i>Concentration (%)</i>	<i>Symbols</i>	<i>H-phrase(s)</i>	<i>Nota</i>
Sodium azide	26628-22-8	70 - 90	GHS06, GHS08, GHS09	300-310-373-400-410	-
Cooling agent	XXXX-24-4 *	10 – 15	GHS06	301-315-319-335	-
Metal	XXXX-37-1 *	0 – 5	GHS07	315-319-335	-
Binder	XXXX-76-1 *	3 – 10	GHS07	302-315-319-335	-

\* Full CAS-numbers available upon request for enforcement purposes

#### Booster

<i>Ingredient</i>	<i>CAS-number</i>	<i>Concentration (%)</i>	<i>Symbols</i>	<i>H-phrase(s)</i>	<i>Nota</i>
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BKNO <sub>3</sub>	7440-42-8	100	GHS01, GHS07	203-302-318	-
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

In general, in case of doubt or if symptoms persist, always call a physician. Never give anything by mouth to an unconscious person.

In case of breaking or opening of a generator, evacuate people from the contaminated area and provide maximum ventilation.

In case of activation of the generator, evacuate people from the area and provide maximum ventilation.

### 4.2 Article

#### If inhaled

Inhalation of gas after ignition:

- Bring victim to well ventilated area.
- In case of difficult breathing, apply extra oxygen.
- Ventilate area.
- Consult a physician.

### 4.3 Content

#### If inhaled

Inhalation of dust:

- Bring victim to well ventilated area.
- In case of difficult breathing, apply extra oxygen.
- Consult a physician.

#### In case of skin contact

- Remove large grain particles.
- Rinse with water for a minimum of 15 minutes.
- Remove contaminated clothes and shoes.
- Consult a physician.

#### In case of eye contact

- Rinse eyes with water for a minimum of 15 minutes.
- Consult a physician.

#### If swallowed

- Rinse mouth immediately with water, in case the victim is conscious.
- Induce vomiting.
- Consult a physician, and show this safety sheet.

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## 5 FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use dry powder or sand to extinguish fire. **Do not use water!**

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

Nitrogen gas is released when device is ignited.

Traces of combustion gases (e.g. CO, CO<sub>2</sub>, SO<sub>2</sub>, NOx...) are released when device is ignited.

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### **5.3 Special protective equipment for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary (See Section 5.2).

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## **6 ACCIDENTAL RELEASE MEASURES**

In case of breaking or opening of a generator, evacuate people from the contaminated area and provide maximum ventilation.

### **6.1 Personnel precautions, protective equipment and emergency procedure**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personnel protection see Sections 7 and 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see Section 13.

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## **7 HANDLING AND STORAGE**

The generators are hermetically sealed off from the environment. The content cannot be released under normal or reasonably foreseeable conditions of use including proper disposal if they are used in accordance with the manufacturer's recommendations – see Operating manual.

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

The chemical agents within the generator are safely contained in normal condition of use. Do not open, drill, incinerate, crush, immerse, or expose to temperatures above the operating temperature range reported for products.

Avoid all possible contact with the grain inside the device.

### **7.2 Conditions for safe storage**

Store in a clean area, between 15°C and 40°C.

### **7.3 Incompatibility**

Do not store together with combustible or oxidizing substances or mixtures.

Store away from water.

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## **8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

Not applicable.

### **8.2 Exposure control**

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#### 8.2.1 Article

##### **Appropriate engineering controls**

Wash hands before breaks and immediately after handling the product.

##### **Personal protective equipment**



Wear safety shoes.

##### **Respiratory protection**

When device has been activated, an adequate respiratory protection must be worn if the occupational exposure limit values are exceeded.

##### **Hand protection**

When activating CGG, strictly avoid contact with activated hot device. Use heat protective gloves when handling after activation.

##### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice.  
Do not inhale the released gas.

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## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Article

#### Appearance

Odor	Ammonia due to release of NH <sub>3</sub> .
Form	Metal casing containing a solid, porous block.
Color	Metal.

### 9.2 Content

#### Safety data

Flammability	Content is flammable solid.
Incompatibility	See Section 7.3.
Decomposition gasses	When device ignites it releases nitrogen gas and traces of NO <sub>x</sub> , CO, CO <sub>2</sub> , NH <sub>3</sub> , SO <sub>2</sub> .

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## 10 STABILITY AND REACTIVITY

### 10.1 Chemical stability

Stable under recommended storage conditions.

### 10.2 Conditions to avoid

Do not allow water to enter container.

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**10.3 Materials to avoid**

When activated device, avoid any contact with water.  
Avoid contact with combustible or oxidizing materials.

**10.4 Hazardous decomposition products**

Sodium slag.

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**11 TOXICOLOGICAL INFORMATION****11.1 Toxicity of the content**

Component	Acute toxicity (LD50, oral) (mg/kg)	Effects of exposure
Sodium azide	10 (20 at dermal absorption)	Nausea, headache, vomiting. Possible effects on the central nervous system.
Lithium fluoride	143	Shortness of breath, headache, nausea, vomiting, large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances.
Catalyst	-	Long term inhalation exposure to iron (oxide fume or dust) can cause siderosis.
Binder	For similar binders it ranges from 1500-3200	Prolonged or repeated inhalation of crystalline silica causes lung diseases.

**11.2 Article**

When used properly, no health effects are anticipated.

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**12 ECOLOGICAL INFORMATION****12.1 Toxicity**

The content is toxic to the environment.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 PBT and vPvB assessment**

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No data available.

**12.6 Other adverse effects**

No data available.

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**13 DISPOSAL CONSIDERATIONS**

**13.1 Product**

The generators (before and after deployment) shall be treated as hazardous waste.

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**13.2 Contaminated packaging**

Dispose of as unused product.

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**14 TRANSPORT INFORMATION**

**ADR/RID**

UN-Number: 3268      Class: 9      Packaging group: III  
Proper shipping name: SAFETY DEVICES, electrically initiated

**IMDG**

UN-Number 3268      Class: 9      Packaging group: III      EMS-No.: F-B, S-X  
Proper shipping name: SAFETY DEVICES, electrically initiated  
Marine pollutant: Yes

**IATA**

UN-Number: 3268      Class: 9      Packaging group: III  
Proper shipping name: SAFETY DEVICES, electrically initiated

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**15 REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the article**

No data available.

**15.2 Chemical safety assessment**

No data available.

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**16 OTHER INFORMATION**

***Text of H-code(s), R-phrase(s) and hazard codes mentioned in Section 3***

H 203	Explosive; fire, blast or projection hazard.
H 300	Fatal if swallowed.
H 301	Toxic if swallowed.
H 302	Harmful if swallowed.
H 315	Causes skin irritation.
H 318	Causes serious eye damage.
H 319	Causes serious eye irritation.
H 335	May cause respiratory irritation.

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H 400 Very toxic to aquatic life.  
H 410 Very toxic to aquatic life with long lasting effects.

***Further information***

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions.

It does not represent any guarantee of the properties of the product. ExxFire BV shall not be liable for any damage resulting from handling or from contact with the above product.