

REVISION: July 2<sup>nd</sup>, 2017

## MATERIAL SAFETY DATA SHEET

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

#### 1.1 Identification of the substance or preparation

Product name: SPARXTAR Powder  
Product code: MFX5102  
CAS Number: 7440-67-7  
EINECS Number: 231-176-9

#### 1.2 Use of the substance / preparation

Alloy product manufacture for creating sparks. For professional use only.

#### 1.3 Company / undertaking identification

Company: MAGIC FX B.V.  
Address: Schouwrooij 27  
5281 RE Boxtel  
The Netherlands  
Telephone: +31 (0)411 635013  
Fax: +31 (0)411 635012  
E-Mail: [INFO@MAGICFX.EU](mailto:INFO@MAGICFX.EU)  
Internet: [WWW.MAGICFX.EU](http://WWW.MAGICFX.EU)

#### 1.4 In case of emergency

Telephone: +31 (0)6 5130 3858  
CHEMTREC, US: +1 (0)800 424 9300  
CHEMTREC, International: +1 (0)703 527 3887

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

H252 Self-heating in large quantities; may cause fire.  
H260 In contact with water releases flammable gases which may ignite spontaneously.

### 2.2 Classification according to Directive 67/548/EEC or Directive 1999/45/EC

R15-17 Contact with water liberates extremely flammable gases. Spontaneously flammable in air.

### 2.3 Risk phrases

15 Contact with water liberates extremely flammable gases.  
17 Spontaneously flammable in air.

## 2.4 Safety phrases

- S7/8 Keep container tightly closed and dry.  
S43 In case of fire, use metallic extinguishing powder. Never use water.

## 2.5 Label elements

### Labelling according to EU guidelines:

Code letter F  
Hazard designation of product: Highly flammable  
Hazard pictograms:



Signal word: Danger

### Hazard statements:

H250	Catches fire spontaneously if exposed to air
H260	In contact with water releases flammable gases which may ignite spontaneously.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

### Precautionary Statements:

P210	Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P222	Do not allow contact with air.
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231+P232	Handle with inert gas. Protect from moisture.
P261	Avoid breathing dust / fume / gas / mist / vapors / spray.
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P301+P312	If swallowed, call a poison center or doctor/physician if you feel unwell.
P302+P334	If on skin, immerse in cool water / wrap in wet bandages.
P304+P340	If inhaled, remove victim to fresh air and keep at rest in a position
P305+P351+P338	If in eyes, rinse cautiously with water several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs, get medical advice / attention.
P402+P404	Store in a dry place. Store in a closed container.

Supplemental Statements: EUH014 – Reacts violently with water.

## 2.6 Hazard description:

WHMIS classification

HMIS ratings (scale 0-4)

(Hazard Materials Identification System)

Health (acute effects) = 1

Flammability = 2

Reactivity = 1

Other Hazards:

Result of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Zirconium Sponge
Chemical Characterization:	Substances
CAS Number Description:	Zirconium (CAS# 7440-67-7): 80.0~97.0% Hafnium (CAS# 7440-58-6): 1.0~4.0%
EINECS Number:	231-176-9
Molecular Formula:	Zr
Molecular Weight:	91.22
Additional information:	Zirconium is routinely found with a low level of Hafnium since separation of the two elements is difficult.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

Eye contact:	Immediately flush eyes gently and thoroughly, including under the eyelids, with clean running water for 20 minutes.
Skin contact:	Wash thoroughly with soap and water. Remove and properly dispose or launder contaminated clothing before wearing it again. Clean material from shoes and equipment. Seek medical attention.
Inhalation:	Remove victim to fresh air. Restore and/or support breathing as needed. Seek medical attention.
Ingestion:	Call poison control center. Never give anything by mouth to someone who is unconscious or convulsing. A professional decision about whether or not to induce vomiting is required. Seek medical attention.

### 4.2 Most important symptoms and effects

Eye contact:	Moderate irritating to eyes.
Skin contact:	Prolonged or repeated exposure may be irritating.
Inhalation:	Prolonged or repeated exposure to large amounts may cause damage to lungs.
Ingestion:	Prolonged or repeated exposure may be irritating to mouth, throat and oesophagus.

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

Notes to physician: Call poison treatment specialist immediately if large quantities have been ingested or inhaled.  
Specific treatments: None

### **5. FIRE-FIGHTING MEASURES**

#### **5.1 Suitable extinguishing media**

Carbon dioxide, dry chemical powder, or alcohol-resistant foam.

#### **5.2 Not suitable as extinguishing media**

Do not use water.

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

Wear appropriate protective equipment and self-contained breathing apparatus (SCBA).

#### **5.4 Specific Hazards**

May emit hazardous fumes under fire conditions.  
Pyrophoric, dangerous when wet.

### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions**

Wear a self-contained breathing apparatus, rubber boots and gloves, and disposable coveralls. Dispose of coveralls after use. Keep unprotected persons away.

#### **6.2 Environmental precautions**

Keep spilled material away from drains and runoff, ground water and soil. Dike and contain the spill with inert material. Absorb on sand, vermiculite or diatomite. Transfer material to a container for disposal or recovery. Ventilate area and wash spill site after material pickup is complete.

#### **6.3 Methods for containment and clean-up**

Prevent further leakage or spillage if safe to do so. Sweep or shovel material into dry containers. Avoid creating uncontrolled dust.

### **7. HANDLING AND STORAGE**

#### **7.1 Handling**

Do not breathing dust, vapor, mist or gas. Avoid contact with skin and eyes. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away.

#### **7.2 Storage**

Store in a tightly closed container in a dry, well-ventilated place. Handle and store under inert gas.

### 7.3 Sensitivities

Air, Moisture

### 7.4 Storage Temperature

15~30 °C

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

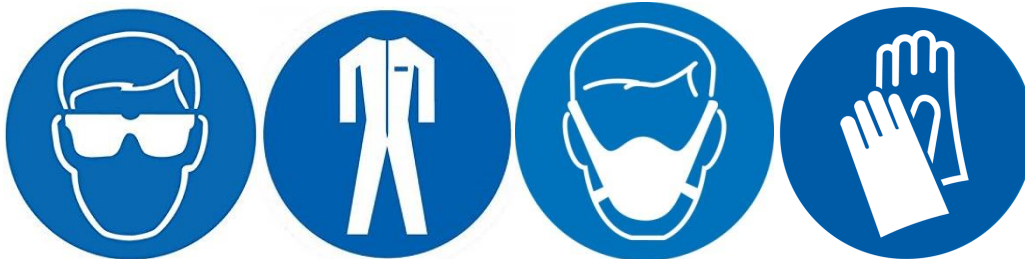
### 8.1 Control parameters

Exposure limit values:

Chemical Name	ACGIH TLV (mg/m <sup>3</sup> )	OSHA PEL (mg/m <sup>3</sup> )
Zirconium 7440-67-7	STEL: 10 (mg/m <sup>3</sup> ), STEL: 10 (mg/m <sup>3</sup> ) Zr TWA: 5 (mg/m <sup>3</sup> ), TWA: 5 (mg/m <sup>3</sup> ) Zr	TWA: 5 (mg/m <sup>3</sup> ) Zr (vacated) STEL: 10 (mg/m <sup>3</sup> ), (vacated) STEL: 10 (mg/m <sup>3</sup> ) Zr

OSHA: Occupational Safety and Health Administration  
 PEL: Permissible Exposure Limit  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 TLV: Threshold Limit Value  
 TWA: Time-weighted average

### 8.2 Exposure controls



#### 8.2.1 Occupational exposure controls

Install and operate general and/or local exhaust ventilation systems of sufficient power to maintain airborne concentration below the defined or recommended limit.

#### 8.2.2 Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the material, and the safe working limits of the selected respirator.

#### 8.2.3 Hand protection

Non-static gloves when skin abrasion is possible. For hygienic reasons, rubber gloves should not be worn more than 2 hours.

### 8.2.4 Eye protection

Safety glasses with side shields or goggles when potential exposure exists. Make sure that there is an eyewash facility in your vicinity.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid metallic granules, grey
Odour:	None
Melting point:	1852 °C
Boiling point:	4377 °C
Explosive properties:	Not applicable
Relative density:	6.506 g/cm <sup>3</sup>
Water solubility:	Insoluble.
Flammability (solid, gaseous):	Contact with water liberates extremely flammable gases.
Oxidizing properties:	Not applicable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Spontaneously flammable in air.
Viscosity:	Not applicable
Other information:	No further relevant information available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable.

### 10.2 Stability

Stable under normal storage conditions.

### 10.3 Possibility of hazardous reactions

Reacts with oxygen.  
Powder may cause fire.  
Contact with water releases flammable gases.  
Spontaneously flammable in air.

### 10.4 Conditions to avoid

Heat, Flame, Sparks, Static electricity, Other ignition sources.

### 10.5 Incompatible materials

Water/moisture, Acids, Oxidizing agents, Air.

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Target Organs**

Not available

### **11.2 Toxicity:**

Not available

### **11.3 Skin corrosion/irritation**

Not available

### **11.4 Serious eye damage/irritation**

Not available

### **11.5 Carcinogenicity**

Not available

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Not available

### **12.2 Persistence and degradability**

Not available

### **12.3 Bio-accumulative potential**

Not available

### **12.4 Mobility in soil**

Not available

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

Not applicable

### **12.6 Other adverse effects**

No known significant effects or critical hazards.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Contact a licensed professional waste disposal service. Dispose in a manner consistent with federal, state and local environmental regulations.

## 14. TRANSPORT INFORMATION

Land transport (ADR/RID) (cross-border), Maritime transport (IMDG), Air transport (ICAO-TI and IATA-DGR).

### 14.1 UN number

UN 3178

### 14.2 UN proper shipping name

Flammable Solids, Inorganic

### 14.3 Transport hazard class

Class 4.1

### 14.4 Packing group

Packing group III

### 14.5 Environmental hazards

No

### 14.6 Special precautions for user

Not available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and IBS Code

Not available

## 15. REGULATORY INFORMATION

### United States:

Toxic Substance Control Act (TSCA):

Listed

Superfund Amendments and Reauthorization Act (SARA 302):

Not Listed

Superfund Amendments and Reauthorization Act (SARA 311/312):

Listed

Superfund Amendments and Reauthorization Act (SARA 313):

Listed

### European Union:

European Inventory of Existing Chemical Substances (EINECS):

No. 231-176-9

Hazard Codes:

F, Xi

Risk Statements:

15-17-36/37/38



Safety Statements:

16-26-27-35-36/37/39-43

**Canada:**

Canadian Domestic Substances List (DSL):

Listed

Canadian Domestic Substances List (NDSL):

Not Listed

**16. OTHER INFORMATION****16.1 Abbreviations and acronyms**

IMDG:	International Maritime Code for Dangerous Goods
DOT:	U.S Department of Transportation
IATA:	International Air Transport Association
IATA-DGR:	Dangerous Goods Regulations by the "IATA"
ICAO:	International Civil Aviation Organization
ICAO-TI:	Technical Instructions by "ICAO"
EINECS:	European Inventory of Existing Commercial Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
HMIS:	Hazardous Materials Identification System (USA)
WHMIS:	Workplace Hazardous Materials Information System (Canada)

**16.2 Information on the revision**

Date of Issue:	July 2 <sup>nd</sup> , 2017
Version:	1.0
Date of previous issue:	not applicable

**16.3 Notes and disclaimers**

This product is manufactured for the purpose of being heated and ejected by equipment specifically designed for that use. The powder is typically used as a visual special effect, to simulate sparks or pyro technique.

**Note:**

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 materials used in combination with any other materials or in any process, unless specified in the text.

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**End of Safety Data Sheet**