



MATERIAL SAFETY DATA SHEET

Date: 23rd April 2015

Section 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

- 1.1 Product Identifier**
GHS Product Identifier **Fireworks, Division 1.4 Explosive**
Chemical name **Fireworks, 1.4G UN0431**
Trade name **Not Applicable**
CAS No. **Article Pyrotechnics**
EINECS No. **Mixture**
REACH Registration No. **Mixture**
Not applicable
- 1.2 Relevant identified uses:**
For entertainment and celebrations, for professional use only.
- 1.3 Identification company** Oriental Fireworks Co Ltd
83 Guizhai East Road Liuyang Hunan, China
Tel: +86-731-8364-9260
Email: info@shogunvulcan.com
URL: www.shogunvulcan.com
- 1.4 Emergency contact** Infotrac 24 hour US Emergency Response Number
Tel: +1-800-535-5053 or 1-352-323-3500
Infotrac Contract No. 106045

Section 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
- 2.1.1** The preparation is classified according to **(EC)** Directive 1999/45/EC or Directive 67/548/EEC and its amendments and **(US)** APA Standard 87-1.
- 2.1.2** Regulation (EC) No. 1272/2008 (CLP) & (US) OSHA Hazard Communication Standard 29 CFR 1910.1200 – EXPLOSIVE
- 2.2 Label elements**
- 2.2.1 Label elements** *According to Regulation (EC) No. 1272/2008 (CLP) & (US) OSHA Hazard Communication Standard 29 CFR 1910.1200*

GHS Product Identifier

Hazard Pictogram



Signal Word

WARNING

Hazard Statements

H204: Fire or projection hazard

Precautionary statements

P210: Keep away from heat/sparks/open flames/hot surfaces – No Smoking

P372+P380: Explosion risk in case of fire: evacuate area

P373: Do NOT fight fire when fire reaches explosives



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2.2.2 Label elements *According to Directive 67/548/EEC & Director 67/548/EEC* **Risk Phrases**

R2: Risk of explosion by shock, friction, fire or other sources of ignition

R8: Contact with combustible material may cause fire

R22: Harmful if swallowed

R36/37/38: Irritating to eyes, respiratory system and skin

R43: May cause sensitization by skin contact

Safety Phrases

S2: Keep out of reach of children

S16: Keep away from sources of ignition – No Smoking

S34: Avoid shock or friction

2.2.3 **Physical hazards**

The mixture is a pyrotechnic preparation. Ignition is possible by contact with open fire, but also by sparks, contact with a hot surface, heat radiation or a strong grinding effect. Self-ignition is possible due to the effects of moisture of contact with acids or bases. Both the preparation and the smoke can have an oxidizing effect on metals



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Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients	% Weight	EC No.	CAS No.	Hazard pictograms	Risk Phrases/Hazard Statements
Potassium nitrate	>50	231-818-8	7757-79-1	 	Xi; R38 Skin Irrit. 2, H315
Charcoal	>10	240-383-3	16291-96-6	None	None
Sulfur	>10	231-722-6	7704-34-9		Xi; R38 Skin Irrit. 2, H315
Potassium perchlorate	>50	231-912-9	7778-74-7	 	R9/R22 H271/H302
Strontium carbonate	>10	216-643-7	1633-05-2	None	None
Magnalium	>10	231-104-6 & 231-072-3	7439-95-4 & 7429-90-5		R11/R15/R17 H250/H260 & H315/H319/ H335/H402
Phenolic resin	<10	605-001-00-5	9003-35-4	None	None
Barium nitrate	<50	233-020-5	10022-31-8	 	R22/R20 H302/H332
Aluminium	<50	231-072-3	7429-90-5		R15/R17 H315/H319/ H335/H402
Copper oxide	<50	215-269-1	1317-38-0	 	R22-50/53 S22-61 H302/H410/P273
Antimony sulfide	<10	215-713-4	1345-04-6	 	R20/22 R51/53 H302/H332/H411 P273

GHS Classification elements in so far as officially assigned according to EC Regulation 1272/2008

Full text of each relevant R phrases can be found in section 16. Full text of each relevant H phrases can be found in section 16.



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Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact:	Rinse with sufficient water; remove any contact lenses prior to rinsing, then immediately rinse the eyes with the eyelids open for a sufficient period of time (at least 10 minutes) using (lukewarm water). Where possible, do not interrupt the rinsing process. Regularly lift the eyelids. Avoid rubbing the eyes to prevent mechanical damage. Help the victim with the rinsing process. Consult an eye doctor if the eyes are irritated or the symptoms persist.
Skin contact:	Remove contaminated clothing. Wash skin immediately with soap and water if available. Use a shower where required. If symptoms like irritation develop, obtain medical attention.
Swallowing:	May be toxic. Have the victim rinse his mouth with water and spit it out (never give an unconscious person something to drink due to risk of suffocation). Do not induce vomiting (unless under direct supervision by a doctor) and immediately consult a doctor showing the packaging or label, or take the victim to hospital. Loosen tight clothing, such as a shirt, tie, belt or waistband. Rest.
Inhalation:	Take the person into fresh air and keep him warm, let him rest. If there is difficulty in breathing, give oxygen. Give artificial respiration if breathing has stopped. Consult a doctor after prolonged exposure or if symptoms do not disappear after a short time.
Burn injuries:	Burn injuries may occur should product accidentally ignite. With all burn injuries; immediate medical treatment for trauma is essential for patient outcome.
Further medical Treatment:	Symptomatic treatment and supportive therapy as indicated.

Section 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:	Preferably with dry chemical, foam or water spray
Unsuitable extinguishing media:	None Known

5.2 Special hazards arising from the substance or mixture

Explosion risk in case of fire. DO NOT fight fire when fire reaches explosives. Do not attempt to directly fight established or slow smoldering fires as an explosion is possible. In case of fire, evacuate area.

5.3 Special exposure hazards from combustion products

Keep enough distance to protect your own safety due to the character of the material. If involved in a fire, it may emit noxious and toxic fumes. Combustion products may include: carbon monoxide, chlorine, chlorine oxides, sulfur oxide and nitrogen oxide.



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5.4 Advice for fire-fighters

In case of fire: Evacuate area. Fight fire remotely due to risk of explosion. Firemen have to wear self contained breathing apparatus. Use qualified personnel who are well aware of the dangers of this product.

5.5 Additional information

Collect extinguishing water to prevent damage to environment. Alert and evacuate the surrounding area. Fight the fire from a sheltered location.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions:

Eliminate all sources of heat and ignition. People dealing with major spillages should wear personal protective clothing (suitable gloves and filter mask if dust is formed). Evacuate the danger zone. Avoid dust engendering and inhalation of the dust. Prevent further dust dispersion for example of dampening the materials.

6.2 Environmental precautions:

Ventilation recommended.

6.3 Clean up methods:

Collect spilled material by hand, eg. With a dustpan and duster; do not use a vacuum cleaner, which poses a risk of explosion. Do not use compressed air for clean up

Section 7: HANDLING AND STORAGE

7.1 Handling:

When handling observe the usual precautionary measures for chemicals. Avoid contact with heat, sparks, flames and other ignition sources. No smoking. No heating, welding, soldering, drilling, cutting. Do not use equipment producing an open flame or electrical equipment, which may cause sparks. Handle in well ventilated areas. Prevent dust formation and inhalation of dust. Avoid contact with the eyes, skin and clothing. Handle empty packaging with the same safety precautions as full packaging. Keep extinguishing equipment in the vicinity.

7.2 Storage:

Store closed packaging in a dry and well-ventilated location. Fireproof. Keep away from food, drinks and animal feed. Store separately, maintain safety distances in accordance with national legislation for pyrotechnic preparations.

Suitable storage material: Original packaging

Storage material to avoid: Packaging that does not meet the applicable ADR regulations, metals.

Storage temperature: Recommended 5-30°C/41-86°F

7.3 Specific use(s):

For regulated consumer or professional use only. Must be used outdoors. See warning label on each individual packaging.



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Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1 Limits of exposure:** No occupational exposure limits are determined for the preparation and/or for the components.
- 8.2 Personal Protective equipment:** Eating, drinking and smoking should be prohibited in areas where this material is handled and stored. Wear suitable protective clothing that prevents contact with the product. The work area and storage area should be for authorized persons only.
- 8.3 Respiratory Protection:** Do not inhale dust. Adequate ventilation in closed areas. Respiratory protection is required if there is a risk of inhaling smoke from the product or for insufficiently ventilated workplaces (filter mask P2)
- 8.4 Skin and body** Wear suitable protective clothing (preferably heavy cotton with tight fitting sleeves) remove contaminated clothing immediately. Keep working clothes separate (on site eg. In a closed plastic bag) and change them every day.
- 8.5 Hands:** Wash hands before breaks and at the end of work. Wear protective gloves if there is risk of skin contact; use heat-resistant gloves for handling.
- 8.6 Eyes** Use safety eyewear (tight fitting goggles) or a full-face shield. Eye-wash.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General information:

Appearance: Loose and/or solid powder encased in paper tubes
Colour: Not applicable
Odour: None

Important health, safety and environmental information:

pH: Weak acid
Boiling point: Not applicable
Flash point: >93°C
Explosive properties: -
Relative density: -
Grain density: -
Solubility in water: Partly soluble in water



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Section 10: STABILITY AND REACTIVITY

- 10.1 Stability:** Stable if stored in dry location
- 10.2 Conditions to avoid:** Avoid high (>30°C) and low (<5°C) temperatures. Avoid raised storage temperatures. Avoid high temperatures, heating, open fire and ignition sources, and prevent the effects of a grinding motion and impact forces that may result in ignition.
- 10.3 Materials to avoid:** Oxidizing agents. Flammable agents.
- 10.4 Hazardous decomposition Products:** During use possible release of carbon monoxide, carbon dioxide, chlorine oxides, sulfur oxide and nitrogen oxide. Metal fumes and oxides. Thermal decomposition will evolve toxic irritant and flammable vapors.

Section 11: TOXICOLOGICAL INFORMATION

SUBSTANCE	CAS No.	LD ₅₀ (Oral, Rat)	LD ₅₀ (Inhalation, Rat)	LD ₅₀ (Dermal, Rat)
Potassium Nitrate	7757-79-1	3750 mg/kg	NE	NE
Sulfur	7704-34-9	NE	2,520 ppm/hr	NE
Charcoal	16291-96-6	>5g/kg	NE	NE
Potassium perchlorate	7778-74-7	2100 mg/kg	NE	NE
Barium nitrate	10022-31-8	355 mg/kg	NE	NE

This health hazard assessment is based on information of the components.

- Effects on the eyes:** Particle matter may cause physical injury to the eye. Irritating to the eyes Redness.
- Effects on the skin:** Skin contact may cause irritation, mechanical damage, redness, sensitization, irritation eczema
- Effects on respiration:** May cause severe respiratory tract irritation.
- Ingestion:** Harmful. Ingestion may cause irritation of the gastrointestinal tract.
- Inhalation of smoke:** Smoke released during intended use is harmful upon inhalation and causes coughing.



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Section 12: ECOLOGICAL INFORMATION

12.1 Mobility:	The product is partly soluble in water.
12.2 Persistence and degradability:	Moderately/partially biodegradable. Persistent.
12.3 Bioaccumulative potential	Moderately/partially biodegradable.
12.4 Mobility in soil:	The product has moderate mobility in soil.
12.5 Other harmful effects:	Do not discharge to groundwater surface water or drains. During combustion possible release of carbon monoxide, carbon dioxide, chlorine, chlorine oxides, sulfur oxide and nitrogen oxide.

Section 13: DISPOSAL CONSIDERATIONS

13.1 Product waste:	Pay attention to the flammable and explosive character of the material and the fumes that may be released by it. Incinerate in a hazardous waste incinerator suitable for the disposal of noxious chemical waste in accordance with the stipulations of the relevant regulations. Waste generation should be avoided or minimized wherever possible. If this is not possible, destruction must take place in an approved facility, which is equipped to absorb and neutralize acid gasses and other toxic processing products. Waste, even small quantities, should never be poured down drains, sewers or water surfaces. Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or local authority for advice.
13.2 Additional Information	None



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Section 14: TRANSPORT INFORMATION

Classification as ADR Material for road transport.

UN Number 0431
Proper shipping name: UN0431 ARTICLE PYROTECHNICS, 1.4G
ADR Class: 1
Packaging Group II
Packaging instruction: 135
Tunnel restriction code: E



ADR Label / Hazard Label

Classification as ICAO/IATA material for air transport

UN Number 0431
Proper shipping name: UN0431 ARTICLE PYROTECHNICS, 1.4G
Packaging instruction: Not allowed (passenger airplane)
Packaging instruction (75kg): 135 (cargo aircraft)
Class: 1
Packaging Group II
ICAO/IATA label Explosive substances or articles, class 1, division 1.4

Classification as IMDG material for sea transport

UN Number 0431
Proper shipping name: UN0431 ARTICLE PYROTECHNICS, 1.4G
Class: 1
Maximum quantity None
EmS F-B, S-X
IMO Label: Explosive substances or articles, class 1, division 1.4
Packing and stowage Category 06

Section 15: REGULATORY INFORMATION

EU regulations.



Hazard Symbol:

EU Labelling classification	O	Oxidizing
	Xn	Harmful
R – (Risk) phrases	R8	Contact with combustible material may cause fire
	R22	Harmful if swallowed
	R36/37/38	Irritating to eyes, respiratory system and skin
	R43	May cause sensitization by skin contact
S – (Safety) phrases	S2	Keep out of reach of children
	S16	Keep away from sources of ignition – No Smoking
	S34	Avoid shock or friction



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S35

This material and its container must be disposed of in a safe way

S37

Wear suitable gloves

WGK (German legislation) 2

Hazard to waters, VwVws, Annex 2



Waste Symbol

USA regulations.

TSCA (Toxic Substance Control Act)

All chemicals listed

Canada regulations

WHMIS Classification

Exempt – Consumer Products

Section 16: OTHER INFORMATION

Risk Phrases and Safety Phrases

R2: Risk of explosion by shock, friction, fire or other sources of ignition.

R3: Extreme risk of explosion by shock, friction, fire or other sources of ignition.

R9: Explosive when mixed with combustible material.

R20/21: Harmful by inhalation and in contact with skin.

R22: Harmful if swallowed.

R25: Toxic if swallowed.

R33: Danger of cumulative effects.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R61: May cause harm to the unborn child.

R62: Possible risk of impaired fertility.

S2: Keep out of the reach of children.

S13: Keep away from food, drink and animal feeding stuffs.

S16: Keep away from sources of ignition - No smoking.

S23: Do not breathe fumes.

S24/25: Avoid contact with skin and eyes.

S34: Avoid shock or friction.

S35: This material and its container must be disposed of in a safe way.

S36/39: Wear suitable protective clothing and eye/face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazard statement(s) and Precautionary statement(s)

H204: Fire or projection hazard.

H272: May intensify fire; oxidizer.

H301: Toxic if swallowed.

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H315: Causes skin irritation.



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H319: Causes serious eye irritation.
H332: Harmful if inhaled.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.
P234: Keep only in original container
P240: Ground/bond container and receiving equipment.
P250: Do not subject to grinding/shock/.../friction.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P270: Do not eat, drink or smoke when using this product.
P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P305: IF IN EYES: Get immediate medical attention.
P373: Do NOT fight fire when fire reaches explosives
P401: Store in accordance with local/regional/national/international regulations
P501: Dispose of contents/container to: Send to a licensed recycler, reclaimer or incinerator.

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Additional information	Product according to directive 2007/23/EC of the European Parliament and of the council of 23 May 2007 on the placing on the market of pyrotechnic articles.
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The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the product in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any products for its own particular purpose.

Safety data sheet according to regulation (EC) No 1907/2006 of the European parliament and of the council from 18 December 2006 concerning the registration, evaluation, authorization and restrictions of chemicals (REACH).