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Safety data sheet according to the REACH regulations as amended by EC Regulation 2015/0830

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier	Black Powder Including Blasting powder, fireworks powder, golden glitter powder, musket powder, fuse powder, black powder according to TL 1376-05xx, black powder according to MIL-P-223-C, black powder according to INT. DEF. STAN. 13-167/1, black powder according to BOFORS standard W9-33
1.2 Use of the Product:	Blasting, Pyrotechnics, Propellant
1.3 Details of the Supplier of the MSDS:	
Name	EPC-UK EXPLOSIVES
Address:	ROUGH CLOSE WORKS CARNFIELD HILL SOUTH NORMANTON ALFRETON, DERBYSHIRE, DE55 2BE
Telephone Number:	01773 832253
Contact e-mail	info@epc-groupe.co.uk
1.4 Emergency Telephone Number:	01773 832253

SECTION 2. HAZARD IDENTIFICATION

2.1 Classification of Mixture

Expl. 1.1 H201: Explosive, mass explosion hazard.


2.2 Label elements

Pictogram



GHS01
Danger
H201: Explosive, mass explosion hazard

- Signal word
- Hazard Statement Warning



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- Precautionary Statements
- P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P250: Do not subject to grinding / shock / friction
-
- P370+380: In case of fire, evacuate area
- P372: Explosion risk in case of fire
- P373: DO NOT fight fire when fire reaches explosives
- P501 Dispose of contents/container Dispose of the product/container in accordance with local regulations on the disposal of explosive and contaminated waste.

2.3 Other Hazards Result of PBT vPvB assessment: No assessment established up to now

SECTION 3. COMPOSITION/INFORMATION ON THE INGREDIENTS

3.1 Mixtures

Name	CAS-Nr.	EC-Nr.	Registration-Nr.	Concentration	Signal word	Classification
Potassium nitrate	7757-79-1	231-818-8	01-2119488244-35-xxxx-	40-85	Warning	H272 May intensify fire oxidizer 
Sulphur	7704-34-9	231-722-6	01-2119487295-27-xxxx	6-27	Warning	H315 causes skin irritation 
Charcoal	16291-96-6	240-383-3	01-2119560590-41-xxxx	5-52		

SECTION 4. FIRST AID MEASURES

4.1 Description of First Aid Measures

First Aid – Inhalation: After inhalation of detonation gases, remove victim to fresh air. If nauseous consult doctor

First Aid – Skin: Wash the affected areas thoroughly with soap and plenty of water



First Aid – Eyes: Rinse thoroughly with water for at least 15 minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists, consult a doctor.

First Aid – Ingestion: Rinse mouth with water. Consult doctor.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed



For further information contact the Technical Service Dept at
EPC-UK Explosives Venture Crescent Alfreton Derbyshire DE55 7RA
Tel 01773 832253 Fax 01773 837683

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Inhalation

Combustion gas can damage the central nervous system, metabolism and the digestive system. Prolonged exposure can cause pulmonary oedema

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Appropriate: Large quantities of water must be used to cool and protect exposed material.

Inappropriate: not determined.

- **DO NOT ATTEMPT TO EXTINGUISH THE BURNING
EXPLOSIVES! RISK OF EXPLOSION.**

Try to remain calm and extinguish the fire before it reaches the product. In case of the risk of an explosion, do not attempt to extinguish the fire.

Evacuate to a shelter located at least 300m away, before the fire reaches the explosive. Secure the site against unauthorized access.

**5.2 Special Hazards
Arising from Product:**

If the product is enveloped in flames, there is an immediate risk of explosion, so evacuate as quickly as possible, to at least 300 meters from the flames, and if possible seek shelter behind a natural or artificial barrier. Product combustion generates toxic fumes and gases, carbon monoxide and hydrogen sulphide.

5.3 Advice for Firefighters:

If the flames do not involve the product directly, extinguish them using the media recommended for the specific type of fire. Move the product away from the fire if possible.

If the fire directly involves the product, evacuate the area immediately to an upwind position to avoid breathing the fumes. There is an explosion risk in case of fire, so DO NOT fight fire when it reaches explosives. Only if possible, fight the fire from a protected position, wearing self-contained breathing apparatus and using large quantities of water.

SECTION 6. ACCIDENTAL RELEASE MEASURES

**6.1. Personal precautions,
protective equipment
and emergency
procedures:**


Remove all potential sources of ignition and avoid any action that could cause an impact, friction, sparking or a sudden rise in temperature. Wash hands in case of contact with the product. Keep unauthorized persons away

**6.2 Environmental
Precautions:**

Do not let the product get into sewage or waters. After penetration of waters, immediately notify authorities

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

Pick up by hand using shovels made of wood or aluminium. And only fill into clean and marked containers which can be covered. Avoid impact and friction. Do not use sparking tools. After as much as possible has

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been removed, down the area with water. In case of rain cover the product with a tarpaulin


- 6.4. Reference to other sections** Refer to sections 7, 8 and 13.

SECTION 7. HANDLING AND STORAGE

- 7.1 Precautions for Safe Handling:** Protect from fire and direct solar radiation. Open and handle containers with care. Avoid formation of dust. Keep away ignition sources. Do not smoke. Avoid impact and friction.
- 7.2 Conditions for safe storage , including any incompatibilities:** In general storage must be licensed as required by the Explosives regulations
Store in a cool dry place in original packaging.
Shelf life, when stored in good conditions in unopened packaging, is 10 years.
Do not exceed the authorized amounts for the store.
Do not store with other dangerous goods
Only store with other compatible explosives.
- Storage limits for which COMAH applies for Explosives:
10 tonnes Lower Tier;
50 tonnes Upper Tier
- 7.3 Specific end use(s)** The product is supplied for use, testing and analysis by qualified personnel who have been fully trained to handle explosives.
Do not use beyond the shelf life.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

- 8.1 Control Parameter:** Contains no substances with threshold limit values
Dust general (EH40)
inhalable dust 10 mg.m⁻³
respirable dust. 4 mg.m⁻³
- After detonation gases
Carbon Monoxide (EH40)
8 hr TWA 35 mgm⁻³
STEL 232 mgm⁻³
Hydrogen Sulphide (EH40)
8 hr TWA 7 mgm⁻³
STEL 14 mgm⁻³
- 8.2 Exposure controls**
Appropriate engineering controls Install effective earthing at the workplace. Do not use sparking tools
Personal protective equipment

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Hand protection	Not necessary if handled correctly but gloves are recommended.
Eye protection	Not necessary if handled correctly but safety glasses are recommended
Body protection	Work clothes must be antistatic, made of cotton for instance, and flame retardant.
Respiratory protection:	If dust present, wear dust mask.
Industrial hygiene:	Do not eat, drink or smoke when using this product. Wash thoroughly after handling, especially before breaks and after finishing work. Avoid contact with eyes.
Other:	Use appropriate anti-static footwear
Environmental exposure controls	Not available


SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties

(a) Appearance/ colour:	Granular/meal. Black
(b) Odour:	odourless
(c) Odour threshold	Not applicable
(d) pH:	10% dilution neutral to litmus
(e) Melting point / Freezing Point	Not available
(f) Initial Boiling point and boiling range	Not applicable
(g) Flash point:	Not applicable
(h) Evaporation Rate:	Not available
(i) Flammability:	Not available
(j) Upper / lower flammability or explosive limits	Not available
(k) Vapour pressure,:	Not available
(l) Vapour density	Not available
(m) Relative Density	1..1-1.9 g/cm ³
(n) Apparent Density	0.5-1.2 g/cm ³
(o) Solubility(ies)	Water: 320g/dm ³ (ref to KNO ₃)
(p) Partition coefficient (n-octanol / water):	Not available
(q) Auto-ignition temperature	Not available
(r) Decomposition temperature	290-360°C
(s) Viscosity:	Not available
(t) Explosive properties	Mass explosion hazard Impact sensitivity ≥7.5J Impact sensitivity >360 N
(u) Oxidising properties	Not available

9.2 Other information Not available

SECTION 10. STABILITY AND REACTIVITY

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- 10.1 Reactivity:** Avoid impact and friction. .
- 10.2 Chemical Stability** When heating – danger of explosion. Product is slightly hygroscopic. Keep locked and dry. The recommended shelf life is 10 years.
- 10.3 Possibility of hazardous Reactions** When heating – danger of explosion.
- 10.4 Conditions to avoid** Keep away from heat, sparks, naked flames and hot surfaces. Do not smoke. Avoid impact, shock and friction.
- 10.5 Incompatible materials** Strong oxidizing and reducing agents
- 10.6 Hazardous Decomposition Products:** Carbon monoxide and hydrogen sulphide

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

	Potassium Nitrate	Sulphur	Charcoal
(a) acute toxicity	LD50 (oral, rat) = 3015 mg/kg Data not available on acute skin and inhalation toxicity	LD50 (oral, rat) = >5,000 mg/kg Inhalation LC50 rat 9.23 mg/l 4 h Dermal: LD rabbit .2,000mg/kg	Quantitative data on the toxicity of this material are not available The product manufacturer's experience has provided no indication of any hazardous potential
(b) skin corrosion / irritation	Data not available	Causes skin irritation	
(c) Serious eye damage / irritation	Slight irritation	Slight irritation	
(d) Respiratory or skin sensitisation	Data not available.	No sensitizing effect	
(e) Genotoxicity in vitro	Ames test: negative	Ames test: negative	
(f) STOT – single exposure	Not classified as such	Not classified as such	
(g) STOT –repeated exposure	Not classified as such	Not classified as such	
(h) aspiration hazard	Not classified as such	Not classified as such	


11.2. Other information

Inhalation of the dust should be avoided as even inert dusts may impair respiratory organ functions

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

	Potassium Nitrate	Sulphur	Charcoal
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Toxicity to fish	LC50 Poecilla teticulata 191 mg/l 96hr	LC50 Danio rerio 191 mg/l 96hr	Quantitative data on the toxicity of this material are not available
Toxicity to daphnia	LC50 Daphnia Magna 490 mg/l 48 hr	LC50 Daphnia Magna >1,000 mg/l 48 hr	
Toxicity to bacteria	No data available	No data available	

12.2 Persistence and Degradability:

Potassium Nitrate	Sulphur	Charcoal
No data available	No data available	No data available

12.3 Bioaccumulation potential; Not available

Potassium Nitrate	Sulphur	Charcoal
No data available	No data available	No data available

12.4 Mobility in soil

Potassium Nitrate	Sulphur	Charcoal
No data available	No data available	No data available

12.5 Result of PBT and vPvB Assessment:

	Potassium Nitrate	Sulphur	Charcoal
PBT and vPvB assessment	Not available	Not available	Not available

12.6 Other Adverse Effects Not available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Product and Container disposal


Do not put waste in general waste or landfill; destroy in licensed facilities. Contaminated packaging with traces of explosives must be carefully reviewed to ensure they are empty and put flat. They can be burned on the place of use, if the property is authorized. See the CBI/EIG "Guidance for the Safe Management and Disposal of Explosives"

SECTION 14. TRANSPORT INFORMATION

14.1 UN Number : UN 0027

14.2 UN Proper Shipping Name : BLACKPOWDER

14.3 Transport Hazard Classes: 1.1D

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- 14.4 Packing Group :** Not assigned
- 14.5 Environmental Hazards** Not a marine pollutant under IMDG code
- 14.6 Special Precautions for User** As an explosive, the product is a high consequence dangerous good and adequate transport precautions must be taken for its security. Transport by air is forbidden under ICOA/IATA codes
IMDG code EmS F-B, S-Y
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not available

Label





SECTION 15. REGULATORY INFORMATION

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

- UK Legislation: Carriage of Dangerous Goods Regulations 2009, as amended – implementing ADR
Control of Substances Hazardous to Health regs 2002, as amended
Explosives Regulations 2014
Control of Major Accident Hazard Regulations 2015
- EC Regulations Registration Evaluation, Authorisation and Restriction of Chemicals Regulations 2006, as amended
Classification Labelling and Packaging Regulations 2008, as amended

- 15.2 Chemical Safety Assessment** Not available

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SECTION 16. OTHER INFORMATION

MSDS first issued: 03/96

(a) Changes

Issue	Issue Date	Changes
7	28/02/2017	Completely updated based on suppliers' MSDS

(a) Abbreviations and acronyms

ADN/ADNR: Regulations concerning the transport of dangerous substances in barges on inland waterways.

ADR/RID: European Agreement concerns the International Carriage of Dangerous Goods by Road/ Regulations concerning the international carriage of dangerous goods by rail.

ANSI: American National Standards Institute

CAS No.: Chemical Abstract Service Number

CLP: Classification, Labelling and Packaging

EC No.: European Commission Number

IATA: International Air Transport Associations

IMDG: International Maritime Dangerous Goods code

NFPA: National Fire Protection Association

PBT: Persistent, Bioaccumulative, Toxic

RCRA: The Resource Conservation and Recovery Act

UN No.: United Nations Number

vPvB: very Persistent and very Bioaccumulative

(b) References

"Guidance for the Safe Management and Disposal of Explosives, HSE/CBI-EIG, 2007

" EH40/2005 Workplace exposure limits" HSE

(c) Evaluation method for mixtures

Not applicable

(d) Relevant hazard Statements and Precautionary statements

Meanings of Hazard Phrases

H271 May cause fire or explosion; strong oxidizer

H272 May intensify fire; oxidizer

H315 Causes skin irritation

(e) Advice on training

Notice:

**FOR FURTHER INFORMATION CONTACT
EPC-UK EXPLOSIVES EXPLOSIVE ENGINEERING DEPARTMENT**
