



Moura, Silva & Filhos, S.A.
EXPLOSIVOS - PÓLVORAS - RASTILHOS

SAFETY DATA SHEET

In accordance with Regulation No. 1907/2006 of 18 December, from the current text

Black Powder
Edition: 2016/07/14
Translation: 2019/08/20
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Product: H1 and H2 Ruff Black Powder / Black Powder 1F, 2F, 3F and 4F/ Mine Black Powder No.1
Pierce and 1F Graphitised



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNTAKING

1.1 PRODUCT IDENTIFIER

Commercial Name:

H1/H2 Ruff Pyrotechnic and hunting Black Powder
1F/2F/3F/4F Pyrotechnic and hunting Black Powder
No.1 Pierced Mine Black Powder
1F Graphitised Mine Black Powder

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses:

- Pyrotechnics, hunting and shooting: H1/H2 Ruff, 1F/2F/3F/4F
- Splitting rocks in ornamental quarries: No. 1 Pierce, 1F Graphitised

Unadvisable uses: Any other use is unadvised.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Moura, Silva & Filhos, S.A.
Rua do Marco, 448

4830-741 Taide (Póvoa de Lanhoso)
Portugal

Tel: +351 253 639 640

Fax: +351 253 632 049

e-mail: margarida@mourasilvaexplosivos.com

1.4 EMERGENCY TELEPHONE NUMBER

European Emergency Number: 112

CIAV – Poison Control Information Centre: +351 808 250 143

Helpdesks: <https://echa.europa.eu/support/helpdesks>

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE MIXTURE

According to Regulation (CE) 1272/2008 of 16 December:

Hazard classes and categories:

Explosive, Division 1.1 (Expl. 1.1)

H201: Explosive; mass explosion hazard.

Skin irritation, category 2 (Skin Irrit. 2)

H315: Causes skin irritation.

2.2 LABEL ELEMENTS

According to Regulation (CE) 1272/2008 of 16 December:

Hazard Pictogram:



Precautionary statements:

Prevention:

P210: Keep away from heat, hot surfaces, sparks, open flame and other ignition sources. No smoking.

P240: Ground and bond container and receiving equipment.

P250: Do not subject to grinding/shock/friction.

P280: Wear protective gloves and clothing/eye and face protection.



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Signal word: Danger

Hazard warnings:

H201: Explosive; mass explosion hazard

Response:

P373: DO NOT fight fire when fire reaches explosives.

P370+P380: In case of fire: evacuate area.

2.3 OTHER HAZARDS

Mixture neither meets the classification criteria for PBT (Persistent, Bioaccumulative and Toxic Substances) nor for vPvB (Very Persistent, Very Bioaccumulative Substances) in terms of Annex XIII of Regulation No. 1907/2006.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL DESIGNATION	% (p/p)	CAS No.	CE No.	Regulation (CE) No. 1272/2008 of 16 December 2008	
				HAZARD RATING	WARNINGS
Potassium Nitrate	65-85%	7757-79-1	231-818-8	Oxidising solid, category 3 (Ox. Sol. 3)	H272
Carbon	10-20%	-	-	(Not classified as hazardous)	-
Sulphur	5-15%	7704-34-9	231-722-6	Skin irritant, category 2 (Skin Irrit. 2)	H315
Yellow Dextrin	2-3%	9004-53-9	232-675-4	(Not classified as hazardous)	-

(See full text on hazard statements H in section 16)

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Eye contact: Rinse eyes under running water for a minimum of 15 minutes, keep eyes open. If using contact lenses, remove them before washing eyes. Get immediate medical assistance.

Skin contact: Carefully remove contaminated clothing, so that it does not come into contact with eyes. Immediately wash skin with soap and water. In case of skin irritation, get medical assistance.

Ingestion: Oral exposure is extremely improbable. Do not induce vomiting. If victim is conscious, wash their mouth out with water. If victim is unconscious, with convulsions or has difficulty swallowing, never induce vomiting nor attempt to give them liquids. Get medical assistance and show this Safety Data Sheet.

Inhalation: In case of inhalation of decomposition products, remove victim from contaminated area, take them to an open and ventilated location, keep them relaxed and comfortable. Consult a doctor if they show any symptoms.

In case of injury caused by the detonation of product, get immediate medical help.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

In case of exposition: vertigo, nausea, convulsion, cough, dermal irritation as well as irritation of eyes, mouth, throat and other contaminated tissue.

4.3 INDICATIONS OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No available information.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

If fire reaches explosives, DO NOT attempt to fight it out, as there is a risk of explosion.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Upon burning/detonation, hazardous gases such as nitrogen oxide, carbon monoxide, sulphur oxide and hydrogen sulphide can be produced.

5.3 ADVICE FOR FIREFIGHTERS

Prevent fire from reaching containers, by flooding the area.

If there is time, remove containers to a safe area.

Cool any containers and structures exposed to pulverised water. Risk of explosion in case of fire.

To fight fires which can potentially involve this material but have not yet reached containers, self-contained breathing equipment and full chemical protection suits should be worn.

In case of fire: evacuate area. Do not fight fires involving or surrounding explosive material. Do not fight fires around containers with this product. Leave the area and let the fire burn. Evacuate all people near or around the fire. Contact the authorities.

If possible, keep the water used to put out the fire from reaching ground water, water drains or other environmentally sensitive areas.



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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

In case of leakage, remove sources of ignition. Maintain all unauthorised personnel outside the premises. Avoid contact with skin and eyes. Wear protective gear on hands, feet, and over body. (see point 8)

6.2 Environmental precautions

Keep product from reaching the soil or water environment.

6.3 Methods and materials for containment and cleaning up

Using gloves put the product inside a clean plastic bag duly identified. Do not use tools which cause electric discharges or produce sparks. The deflagration or neutralisation of the spilled product should be executed by authorities or competent technicians. If necessary, contact the manufacturer for specific suggestions relating to this process.

6.4 Reference to other sections

Control methods outlined in point 8 should be considered.

Waste and material contaminated by the product should be treated as explosive residuals, in accordance with point 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Technical measures: Install a ground connection in the workplace. Do not use tools of electric discharge which can cause sparks. Always wear protective gear on hands, eyes, face and body. Before loading, vehicles and containers should be carefully cleaned out. It is prohibited to use fire or flames in the vehicles and containers which transport explosives, either in the proximity and/or while loading and unloading. Keep away from sources of ignition. No smoking.

Do not subject product to shock or friction. Do not open packages during transport. Open and manipulate containers with care. Avoid dust.

General Recommendations: No eating, drinking or smoking in the workplace. Remove contaminated protective clothing and equipment after handling product. Wash hands before taking a break from work. Do not work with explosives under the influence of alcohol, narcotics, or drugs.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures: Store boxes in a cool, dry area.

Keep packages closed. Avoid exposure to heat and direct sunlight. Do not allow product to come into contact with oxidizable materials.

Incompatible products and materials: Strong acids and bases, flammable or combustible products, primary oxidising agents and explosives.

The storage of explosives is subject to specific legislation. They should only be stored with materials of the same compatibility group.

7.3 Specific end use(s)

- H1/H2 Ruff Black Powder and 1F/2F/3F/4F: Pyrotechnics, hunting and shooting
- Black Powder No. 1 Pierce, 1F Graphitised: Splitting rocks in ornamental rock quarries

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Not applicable. No defined limits of professional exposure have been found for any of the substances present in the mixture.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Install a connection to the ground in the workplace. Do not use tools which cause electric discharges or produce sparks.

Specific safety and health measures: Minimise contact of product with skin, eyes and clothing. Do not eat, drink or smoke while using product. Hands and skin accidentally exposed to product should be washed before eating, drinking, smoking, or using the restroom, and after work.

8.2.2 Individual protection measures, such as personal protective equipment

Eye/face protection:	Eye protection is not necessary under normal conditions of use and with good ventilation. In case of dust formation, use eye protection.
Skin protection:	Wear protective clothing; wear PVC or PVA gloves; wear protective footwear.
Respiratory protection:	Respiratory protection is not needed under normal conditions of use and with good ventilation. In case of dust formation, wear a mask for protection





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8.2.3 Environmental exposure control

Keep product from reaching water ways. Do not leave product remnants in the area of application.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

	Pyrotechnic and hunting Black Powder Ruff H1	Pyrotechnic and hunting Black Powder Ruff H2	Pyrotechnic and hunting Black Powder 1F	Pyrotechnic and hunting Black Powder 2F	Pyrotechnic and hunting Black Powder 3F	Pyrotechnic and hunting Black Powder 4F	Mine Black Powder 1F Graphitised	Mine Black Powder no. 1 Pierced
Relative density:	0,7	0,73	Information not available	0,87	0,78	0,73	0,8	Information not available
Appearance:	Black granular texture							Long black cylindrical granules
Odour:	Characteristic Black Powder odour							
pH:	Not applicable							
Boiling point:	Not applicable							
Burning point:	Release of fumes from 120°C; not flammable to 180°C; with ignition, reaching 111°C							
Evaporation rate:	Not applicable							
Flammability:	Flammable							
Vapour pressure:	Not applicable							
Vapour density:	Not applicable							
Solubility:	Good							
Partition coefficient n-octanol/water:	Not applicable							
Viscosity:	Not applicable							
Explosive properties:	Highly explosive							
Oxidizing properties:	Moderate							

9.2 Other Information

Self-ignitibility: No
Water resistance: Weak

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Mixture stable under recommended conditions for storage and handling (see section 7)
Product reacts if mixed with strong acids or bases, flammable or combustible products, primary oxidising agents and explosives.

10.2 Chemical stability

Mixture is stable under normal environmental conditions.

10.3 Possibility of hazardous reactions

Possibility of hazardous reactions when in contact with flammable or combustible products and primary explosives.
Product reacts if mixed with primary explosives, causing explosion.

10.4 Conditions to avoid

Temperature: Avoid exposure or contact with extreme temperatures (below -10°C and above +100°C).
Pressure: Avoid exposure to high pressure.
Shock: Avoid shocks.
Friction: Avoid product friction.
Ignition: Avoid sources of ignition.
Water: Avoid contact with water

10.5 Incompatible materials

Flammable or combustible products, primary oxidising agents and explosives.

10.6 Hazardous decomposition products

Upon burning/detonating, hazardous gases, such as nitrogen oxides, carbon monoxide, sulphur oxides, and hydrogen sulphide can be produced.



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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Skin irritant, category 2 (Skin Irrit. 2)
H315: Causes skin irritation

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity of potassium nitrate: EC50 (aquatic plants: *Daphia magna*) / 48 hours = 490 mg/l.
Can cause eutrophication in natural water

Ecotoxicity of sulphur: CL50 (fish: *Brachydanio rerio*) / 96 hours = 886 mg/l.
Hazardous and toxic to aquatic environments if it originates from hydrogen sulphide.

12.2 Persistence and degradability

Product degrades slowly under normal environmental conditions

12.3 Bioaccumulative potential

Product not Bioaccumulative.

12.4 Mobility in soil

Data not available

12.5 Results of PBT and vPvB assessment

No PBT or vPvB assessment has been carried out, but none of its constituents meet the PBT or vPvB criteria

12.6 Other adverse effects

No other known adverse effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste and contaminated packaging should be eliminated in strict accordance with national legislation, under the orientation of a responsible local technician (Decreto-Lei No. 139/2002 of 17 May, altered by Decreto-Lei No. 87/2005 of 23 May)
It is prohibited to unload waste by way of residual water.

Note: No explosive material should be intentionally abandoned anywhere, for any reason or in any way since it can be accessed by children or unauthorized people.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number: H1/H2 Ruff and 1F/2F/3F/4F Pyrotechnic and hunting black powder, and Mine Black Powder 1F Graffitted: **0027**
Mine Black Powder No. 1 Pierce: **0028**

14.2 UN proper shipping name

H1/H2 Ruff and 1F/2F/3F/4F Pyrotechnic and hunting black powder, and Mine Black Powder 1F Graphitised: **BLACK POWDER (GUNPOWDER), granular or as a meal**
Mine Black Powder No. 1 Pierce: **BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS**

14.3 Transport hazard class(es)

IMDG class (by sea):	1.1D
ICAO / IATA class (by air):	1.1D
RID / ADR (by rail/road):	1.1D



14.4 Packing group: Not applicable

14.5 Environmental hazards: Mixture is not hazardous to the environment in accordance with the criteria of UN Model Regulations, nor as a marine pollutant.

14.6 Special precautions for user: Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Hazard category Seveso (Directive 2012/18/EU, of the European Parliament and the Council of 4 July 2012): P1a Explosives



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15.2 Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision of the Safety Data Sheet

This edition substitutes the 2014/06/26 edition.

Alterations introduced: applicable legislative updates; elimination of data in relation to Directive 1999/45/CE of 31 May (in the meantime withdrawn); introduction of unadvisable uses; items 4, 6, 8, 11, 13 and 16 (items 4, 6, 8, 11, 13 and 16 (introduction of the following points: "Legend", "Methods of classification of the mixture" and "Other precautionary statements applicable to the mixture...")

Legend

CL50 – Lethal median concentration (concentration which provokes death in 50% of exposed individuals)

PBT – Persistent, Bioaccumulative, and Toxic substances

vPvB – Very Persistent, very Bioaccumulative substances

IMDG - International Maritime Dangerous Goods

ICAO - International Civil Aviation Organization

IATA – International Air Transport Association

RID – International Transport of Dangerous Goods by Rail

ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road

Bibliography References

Regulation (EC) No. 1907/2006 of 18 December 2006 (REACH) in current wording

Regulation (EC) No. 1272/2008 of 16 December 2008 (CLP) in current wording

Regulation (EU) No. 453/2010 of 20 May 2010

Regulation (EU) 2015/830 of 28 May 2015

Directive 2012/18/EU, of the European Parliament and of the Council, of 4 July 2012

Decreto-Lei No. 139/2002 of 17 of May, altered by Decreto-Lei No. 87/2005 of 23 May

Decreto-Lei No. 82/2003 of 23 of April, altered by Decreto-Lei No. 63/2008 of 2 April

Decreto-Lei No. 150/2015 of 5 August

Decreto-Lei No. 293/2009 of 13 October

Decreto-Lei No. 41-A/2010 of 29 April, altered by Decreto-Lei No. 206-A/2012, of 31 August, by Decreto-Lei No. 19-A/2014 of 7 February by

Decreto-Lei No. 246-A/2015 of 21 October

Decreto-Lei No. 98/2010 of 11 August

Decreto-Lei No. 24/2012 of 6 February

ADR 2015 - European Agreement concerning the International Carriage of Dangerous Goods by Road

Safety Data Sheets of substances present in the mixture (provided by respective suppliers)

ECHA site: http://echa.europa.eu/home_pt.asp

National REACH & CLP site: <http://www.reachhelpdesk.pt>

Methods of classification of the mixture:

Based on the classification data of components in the mixture.

List of relevant hazard statements and precautionary statements:

H201: Explosive; mass explosion hazard.

H272: May intensify fire; oxidiser.

H315: Causes skin irritation.

P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

P240: Ground and bond container and receiving equipment.

P250: Do not subject to grinding/shock/friction.

P280: Wear protective gloves and clothing/eye and face protection.

P373: DO NOT fight fire when fire reaches explosives.

P370+P380: In case of fire: evacuate area.

Other precautionary statements applicable to the mixture, but not included in the label due to the imposition of precedence principles (Article 28 of Regulation (CE) No. 1272/2008):

P372: Risk of explosion.

P401: Store in accordance with national regulations.

P501: Dispose of contents/container in accordance with national regulations.

Precautionary statements associated to other hazard classes and categories (which are not "Explosive"):

P264: Wash skin thoroughly after handling.

P302 + P352: IF ON SKIN: wash thoroughly with plenty of water and soap.

P305 + P351 + P338: IF IN EYES: rinse carefully with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313: If skin irritation occurs: get medical attention.

P337 + P313: If eye irritation persists: get medical attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.