



POUDRERIE
D'AUBONNE S.A.

SAFETY DATA SHEET

according to 91/155/EEC modified by directive 93/112/EEC

01.10.2008

Product :	BLACK POWDER																		
1. Designation of substances, preparation and company																			
1.1. Trade name :	black powder																		
Designation of preparation :	Shooting powder Ignition powder Cannon powder Blasting powder Fireworks powder																		
1.2. Manufacturer / Supplier :	POUDRERIE D'AUBONNE SA Chemin de la Vaux 48 CH-1170 AUBONNE Phone : +41 21 808 50 49 Fax : +41 21 808 56 69																		
1.3. Emergency Service :	François Morier, Production Responsable Mobile Phone : +41 78 867 15 15																		
2. Composition / Data for components																			
2.1. Chemical characteristics :	Mixture from potassium nitrate, sulphur, charcoal																		
2.2. Dangerous contents :																			
	<table border="1"><thead><tr><th></th><th><u>CAS-No</u></th><th><u>contents</u></th><th><u>unit</u></th><th><u>code</u></th><th><u>R-phrases</u></th></tr></thead><tbody><tr><td>potassium nitrate</td><td>007757-79-1</td><td>65 – 80</td><td>%</td><td>O</td><td>8</td></tr><tr><td>sulphur</td><td>007704-34-9</td><td>8 – 20</td><td>%</td><td>F</td><td>11</td></tr></tbody></table>		<u>CAS-No</u>	<u>contents</u>	<u>unit</u>	<u>code</u>	<u>R-phrases</u>	potassium nitrate	007757-79-1	65 – 80	%	O	8	sulphur	007704-34-9	8 – 20	%	F	11
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3. Possible hazards																			
3.1. Description of hazard :	E – explosive																		
3.2. System of classification :	the classification corresponds to the actual standards, however, completed by data taken from technical literature and by company's information.																		
4. First Aid Measures																			
4.1. After inhalation of Combustion gas :	<ul style="list-style-type: none">- bring victim to open and fresh air- if nausea consult medical service/doctor																		
4.2. After eye contact :	<ul style="list-style-type: none">- rinse eyes with opened eyelid for several minutes under running water- if the trouble continues contact a doctor																		
4.3. After skin contact :	<ul style="list-style-type: none">- wash with water and soap																		
4.4. After swallowing :	<ul style="list-style-type: none">- cause the victim to vomit fully conscious- rinse mouth with water- cause the victim to drink much water soonest possible- consult medical service / doctor																		
5. Measures for fire fighting																			
5.1. Appropriate fire extinguishing means : In case of environmental fires extinguish with water, water spray jet or extinguishing powder																			
5.2. Fire extinguishing means which are not suitable due to safety reasons :	not applicable																		
5.3. Special hazards caused by the substance, its burning residues or resulting gases : In case of fire hazard of explosion. In any case it has to be prevented that the fire catches the product. No trials to extinguish when the fire has caught the product, look for safe shelter (approx. 300 m). Warn the surroundings. In case of fire or explosion forming of toxic gases (Nox ; SO ₂ ; CO ; H ₂ S).																			
5.4. Special protective devices :	not necessary																		



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6. Measures in case of unintended release	
6.1. Precaution measures related to persons :	Removal of ignition sources. Do not eat, drink, smoke when working. Avoid contact with eyes. Keep unauthorized persons away.
6.2. Environmental protection measures :	Do not let into sewerage or waters. After penetration of waters immediately notify authorities.
6.3. Procedures for cleaning / picking up :	Pick up by hand using shovels made from wood or aluminium and only fill into clean and market containers which can be covered. Avoid impact and friction. Do not use sparking tools. After all down the concerned area only which much water. In case of rain cover the product with tarpaulin.
6.4. Additional note :	contaminated material must be disposed of as waste according to point 13.
7. Handling and storage	
7.1. Handling	
7.1.1. Notes for safe handling	Protect from fire and direct solar radiation. Open and handle containers with care. Avoid formation of dust.
7.1.2. Notes for protection against fire and explosion :	Keep away ignition sources. Do not smoke. Avoid impact and friction.
7.2. Storage	
	Storage is subject to an approval according to national regulations.
7.2.1. Requirements for stores and containers	Storage only in transport packing. The storage is subject to the approval according to local Explosive Law. Storage group : 1.1.
7.2.2. Notes on storage with other products	The storage with explosives of same comptability group is allowed. The storage with other materials is not allowed.
8. Limitation of exposition and personal protective equipment	
8.1. Additional notes for the realization of technical devices :	Install efficient earthing at the working place. Do not use sparking tools.
8.2. Components the limiting values of which have to be controlled in relation to the working place :	not applicable
8.3. Personal protective equipment	
8.3.1. Breath protection :	in case of formation of dust : dust mask
8.3.2. Hand protection :	not necessary if properly handled
8.3.3. Eye protection :	not necessary if properly handled
8.3.4. Body protection :	protective clothing
8.3.5. General protective and hygiene measures :	Keep away from foodstuff, beverages and feedstuff. Avoid contact with eyes. Wash hands before breaks and when finishing work.

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Product :	BLACK POWDER		
9. Physical and chemical properties			
9.1. Appearance :			
9.1.1. Form :	granules or meal		
9.1.2. Color :	black		
9.1.3. Odor :	odorless		
9.2. Safety relevant data	<u>Value/area</u>	<u>unit</u>	
9.2.1. Decomposition by heat	290 - 360	°C	
9.2.2. Density	1,38 – 1,80	g/cm ³	
9.2.3. Apparent density	0,80 – 1,10	g/cm ³	
9.2.4. Solubility at 20°C (Water)	315	g/dm ³	
9.2.5. pH-value (10% solution)	neutral against litmus		
9.2.6. Explosion hazard	mass explosion hazard		
9.2.7. Sensitivity	≥ 10	Y	
9.2.8. Friction sensitivity	> 360	N	
10. Stability and reactivity			
10.1. Conditions to be avoided :	Avoid impact and friction. When heating – hazard of explosion Product is very hygroscopic – keep locked and dry.		
10.2. Substances to be avoided :	strong oxidising and reducing agents		
10.3. Dangerous decomposition products :	NO, NO ₂ , CO, H ₂ S, SO ₂		
11. Information regarding toxicology			
Dirty skin and sulphur and charcoal which have been taken orally are not considered as being toxic. Acute oral toxicity of sulphur LD ₅₀ oral rat is more than 5000 mg/kg. The sulphur dioxide SO ₂ which develops in case of fire/explosion causes strong irritation of the eyes and airways (pulmonary oedema possible).			
Potassium nitrate			
11.1. Acute toxicity :	LD ₅₀ oral rat	3750 mg/kg	
11.2. Experiences with humans :	after oral assimilation – danger of methamoglobinemia		
12. Notes of ecology			
Sulphur and charcoal are in eco-toxicological sense chemically inert. Only potassium nitrate is classified as being environmentally relevant.			
12.1. Notes of elimination :	not applicable		
Potassium nitrate			
We do not have hands assessments of biodegrading and bioaccumulation of potassium nitrate.			
12.2. Aquatic toxicity :	LC ₅₀	1650 mg/24h	(Daphnia)
	EC ₅₀	200/1000 mg/l	(Plankton)
12.3. Further notes :	slightly water endangering		
With small concentration being properly discharged into adapted, biological sewage treatment, no disturbances of the degradation activity of activated sludge are to be expected.			



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Product :	BLACK POWDER				
13. Notes for disposal					
	Wastes and containers must be disposed of according to national regulations or supplied to a special treatment in a safe manner.				
13.1. Rendering harmless of machines, devices, parts of buildings, or like that :					
	<i>Basis :</i> <i>Rules for Safety and Health Protection for the decomposition of objects containing explosive substance or destruction of explosive material or objects containing explosive substance (Decomposition or destruction rules for explosive substance).</i>				
	Throw watering; in case of repair work keeping wet permanently. Make soft incrustations with alcohol or acetone and after that rinse with water in order to remove completely remainder of solvents.				
13.2. Disposal / Destruction					
	<i>Basis :</i> <i>Rules for Safety and Health Protection for the decomposition of objects containing explosive substance or destruction of explosive material or objects containing explosive substance (Decomposition or destruction rules for explosive substance).</i>				
	Regulations for prevention of accidents – explosive substances and objects with explosive substance.				
	Regulations for prevention of accidents – blasting work.				
	The disposal / destruction must only be carried out by authorized personnel on approved burning and blasting ground.				
14. Indication for the transport					
14.1. Road transport ADR/RID					
Class	1	subclass	1.1D	figure	4
Substance No	0027	Hazard No	not applicable		
14.2. Sea transport IMDG Code					
Class	1.1D	UN No	0027	page	1113/1114
EMS No	1-01	MFAG No	7.3	marine pollutant	no
14.3. Air transport ICAO-Ti and IATA-DGR :	Forbidden				
15. Prescriptions					
15.1. Marking in accordance with EC rules :					
	According to EC rules the product must be marked				
	Distinguishing sign and danger sign : E – explosive				
R – phrases	R-2	risk of explosion by shock, friction, fire or other sources if ignition			
S – phrases	S-33	measures against electrostatic charges			
	S-35	this material and its container must be disposed of in a safe way.			
15.2. National regulations					
	According to the actually valid regulations for dangerous goods the product must be marked accordingly.				
	Moreover, the marking prescriptions of the Explosive Law must be observed.				
	Due to the concurrence with the label Class 1.1D the danger symbol E (explosive) is not contained on the packing.				
15.2.1. Abnormal occurrence prescription	CE – directive 96/82 Annex I				
	Category 5				
16. Other indications					
	The indications are based on the actual standing of our knowledge. However, they do not represent an assurance of product properties and do not justify a contractual legal status. Existing laws and prescriptions have to be observed by the consignee of our product in his own responsibility.				
	Safety data sheet issued by Quality Assurance.				