Double-Base Gunpowder
Western Powders, Inc.
Issue Date: 12/01/2015

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Section 1 - Identification of the Mixture and of the Company

Product Names:
Nitro 100 NF, Ramshot Zip, Accurate #2, Accurate #5, Ramshot Silhouette, Ramshot True Blue, Accurate 4100, Ramshot Enforcer, Ramshot X-Terminator, Accurate 2230, Ramshot TAC, Ramshot Hunter, Ramshot Big Game, Ramshot Magnum, Accurate 2520, Ramshot Competition, Accurate #7, Accurate #9, Accurate 1680, Accurate 5744, Accurate 2200, Accurate 2460, Accurate 2700, Accurate Magpro

Trade Names and Synonyms:
Spherical gunpowder, Ball powder, Double-base gunpowder.

Relevant Identified Uses:
Product is intended for use in smokeless propellant applications only.

Distributed By:

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Section 2 - HAZARD IDENTIFICATION

Classification of the Mixture:
Explosives Division 1.3

GHS Classification:

Signal Word: **Danger**

Hazard Statements:

H203 Explosive; fire, blast or projection hazard.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H371 May cause damage to organs
(circulatory system, blood, kidneys, liver) through prolonged or repeated exposure.

Precautionary Statements
Prevention

P210 Keep away from heat.
P240 Ground or bond container and receiving equipment
P250 Do not subject to shock or friction.
P260 Do not breathe dust.
P280 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P281 Wear protective gloves, protective clothing and eye protection.

Response

P370 Explosion risk. In case of fire: Evacuate area. Use water to extinguish. Do NOT fight fire when fire reaches explosives.
P312 If swallowed: Call a poison control center or doctor if you feel unwell.
P330 Rinse mouth.
P305 If in eyes: Rinse cautiously with water for several minutes.
P338 Remove contact lenses, if present and easy to do. Continue rinsing.
P303 If on skin: Wash with plenty of water.
P337 If eye irritation persists: Call a doctor.
P333 If skin rash persists: Call a doctor.
P363 Wash contaminated clothing before reuse.

Storage

P410+412 Store in a well-ventilated place away from direct sunlight.
P404 Keep container tightly closed.
P420 Store away from ignition sources.

Disposal

P501 Store and dispose of container, waste and residues in accordance with all applicable legal and regulatory requirements.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Product is a mixture.

CAS Number	%[Weight]	Name
9004-70-0	50-100	Nitrocellulose
55-63-0	0-42	Nitroglycerin
84-74-2	0-10	Dibutyl Phthalate
Not Available	0-10	Polyester Adipate
85-98-3	0-10	Ethyl Centralite (diethyldiphenylurea)
8050-09-07	0-5	Rosin
13114-72-2	0-3	Akardite II
7757-79-1	0-3	Potassium Nitrate
7778-80-5	0-3	Potassium Sulfate
141-78-6	0-2	Ethyl Acetate
141-78-6	0-1.5	Diphenylamine
86-30-6	0-1.5	N-Nitrosodiphenylamine
18282-10-5	0-1.5	Tin Dioxide
1317-65-3	0-1	Calcium Carbonate
7782-42-5	0-1	Graphite

Section 4 - FIRST AID MEASURES

Inhalation

- Remove to fresh air.
- If not breathing, institute rescue breathing.
- If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor.
- If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR).
- Keep affected person warm and at rest. Get immediate medical attention.

Eye Contact

- Do not rub eyes.
- Immediately flush with plenty of water for up to 15 minutes.
- Remove any contact lenses and open eyelids wide apart. If eye irritation develops, call a physician.

Skin Contact

- Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes.
- May be absorbed through the skin in harmful amounts.
- Call a physician if you feel unwell.
- Wash clothing before re-use.

- If clothing is to be laundered, inform the person performing the operation of the contaminants hazardous properties.

Ingestion

- Rinse mouth thoroughly with water and give large amounts water to people not unconscious.
- Do NOT induce vomiting. Get immediate medical attention.
- Do not give anything by mouth if the person is unconscious or if having convulsions.

Most important symptoms and effects, both acute and delayed.

Eye irritation. Symptoms may include itching, burning, redness and tearing. Skin contact may cause redness and pain. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. High concentrations of dust may irritate throat and respiratory system and cause coughing. A drop in blood pressure, headache, cyanosis and mental confusion may result from nitroglycerin in the product.

Indications of any immediate medical attention and special treatment needed.

Provide general supportive measures and treat symptomatically. Keep victim under observation.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Large volumes of water should be applied as quickly as possible from automatic sprinklers or fire hose.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this may spread fire.

Special Hazards arising from the substrate or mixture.

Toxic vapors/gases may be formed during a fire. Combustion products vary depending on fire conditions and other combustibles present. The predominant products will be carbon dioxide and oxides of nitrogen, Under some conditions, methane, carbon monoxide, irritating aldehydes and carboxylic acids, and hydrogen cyanide may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus (SCBA) and full protective clothing must be worn in case of fire. This includes, but is not limited to, impervious boots, gloves, hard hat and chemically impermeable suit.

Fire-fighting equipment/instructions

Fires involving smokeless propellant should NOT be fought unless extinguishing media can be applied from a well protected (e.g. behind a berm or barricade) and distant location from the point of fire.

Specific methods

Evacuate personnel to a safe area according to pre-determined evacuation plan. Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Explosive; fire, blast or projection hazard.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures.

Keep unnecessary personnel away. Eliminate all ignition sources. Use only non-sparking tools. Wear appropriate protective equipment and non-flammable or flame retardant clothing during clean-up. Avoid inhalation of dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of this SDS.

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (e.g. clearing dust surfaces with compressed air). Clean-up spills immediately using non-sparking utensils. Wet down spilled materials prior to initiating clean-up and keep material wet until ready for disposal. Avoid contamination of water bodies during clean up and disposal. This material is heavier than water. Create an overflow dam with filtration capabilities to retain material. Collect dust using a vacuum cleaner equipped with HEPA filter. Large Spills: Sweep, shovel or vacuum up spillage and collect in suitable container for disposal. For a spillage into water: where possible, remove any intact containers from the water. Clean contaminated surfaces thoroughly to remove residual contamination. Never return spilled material to original containers for re-use. For waste disposal, see section 13 of this SDS.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Do not subject to mechanical shock. Avoid exposure to sunlight or artificial ultraviolet light. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Smokeless powder contains stabilizers and deteriorates very slowly under proper storage conditions. Old smokeless powder should be checked for deterioration regularly. Deteriorating smokeless powder produces an acidic odor and may produce reddish-brown fumes. Dispose of deteriorating smokeless powder through, for example, controlled open burning in small quantities (products should be submerged in water until burned). Smokeless powder should not be exposed to excessive heat, as this can accelerate deterioration. Deterioration produces an acidity that accelerates further reaction and has been known, because of heat generated by the reaction, to cause spontaneous combustion.

Conditions for safe storage, including any incompatibilities

Store at 21°C (70°F), 50% relative humidity (decomposition becomes measurable above 50°C (122°F). Store in original container. Keep container tightly closed. Store in a cool, dry, well-ventilated place away from all sources of ignition. Store away from incompatible materials (see Section 10 of this SDS). For additional information regarding handling and storage guidelines, see "Properties and Storage of Smokeless Powder" published by the SPORTING ARMS AND AMMUNITION MANUFACTURERS INSTITUTE, INC (SAAMI), 11 Mile High Road, Newtown, CT 06405 (www.saami.org)

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

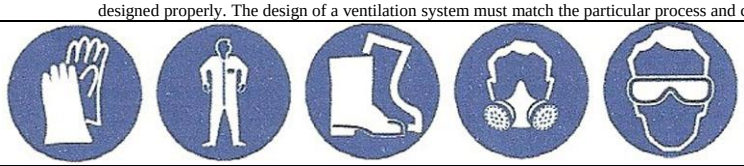
Occupation Exposure Limits (OEL)

Chemical Name	CAS Number	ACGIH TLV	OSHA PEL	Other Information
Nitrocellulose	9004-70-0	None established	None established	
Nitroglycerin	55-63-0	0.05 ppm Skin Designation	0.2 ppm 2.0 mg/m3 OSHA limit applies to skin	Air sampling alone is insufficient to accurately quantify exposure. Measures to prevent significant Cutaneous absorption may be required.
Dibutyl Phthalate	84-74-2	5 mg/m3	5 mg/m3	
Polyester Adipate	Not Available	Not Available	Not Available	
Ethyl Centralite (diethyldiphenylurea)	85-98-3	None established	None established	
Rosin	8050-09-7	None established	None established	
Arkadite II	13114-72-2	None established	None established	
Potassium Nitrate	7757-79-1	None established	None established	
Potassium Sulfate	7778-80-5	None established	None established	
Ethyl Acetate	141-78-6	400 ppm	400 ppm 1400 mg/m3	
Diphenylamine	122-39-4	10 mg/m3	None established	
N-Nitrosodiphenylamine	86-30-6	None established	None established	
Tin Dioxide	18282-10-5	2 mg/m3	2 mg/m3	Tin oxide and inorganic compounds
Calcium Carbonate	1317-65-3	None established	15 mg/m3 (total dust) 5 mg/m3 (respirable fraction)	
Graphite	7782-42-5	2 mg/m3 (respirable fraction)	15 mg/m3 (total dust) 5 mg/m3 (respirable fraction)	

Biological limit values

- No biological exposure limits noted for the ingredient(s).

Exposure Controls

Appropriate engineering Controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: • Process controls which involve changing the way a job activity or process is done to reduce the risk. • Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Personal protection	
Eye and face protection	• Safety glasses with side shields.
Skin protection	Wear appropriate chemical resistant, flame retardant clothing (e.g. • coveralls or lab coat).
Hands/feet protection	Wear impermeable gloves.
Respiratory protection	Use a NIOSH/MSHA approved respirator with organic vapor cartridge and particulate filter if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

General hygiene Considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Granular grey to black colored solid

Physical state	Solid	**Relative density (Water = 1)**	Bulk density 0.5 - 1 (g/cc)
Odor	Odorless	**Partition coefficient n-octanol / water**	Not available
Odor threshold	Not Available	**Auto-ignition temperature (°C**	190-200°C (374-392°F)
pH (as supplied	Not applicable	**Decomposition temperature**	Decomposition becomes measurable above 50°C (122°F).
Melting point / freezing point (°C)	Not applicable	**Viscosity (cSt)**	Not applicable
Initial boiling point and boiling range (°C)	Not applicable	Viscosity and other Information	Product can explode if ignited and confined
Flash point (°C)	Not applicable		
Evaporation rate	Not applicable		
Flammability	Flammable Solid		
Upper Explosive Limit (%	Not available		
Lower Explosive Limit (%)	Not Available		
Vapor pressure (kPa)	<1 mm Hg		
Solubility in water (g/L)	Immiscible		
Vapor density	Not applicable		

Section 10 - STABILITY AND REACTIVITY

Reactivity	Can ignite due to mechanical shock and/or impact. Can ignite due to static discharge (minimum ignition energy 200mJ). Product can explode if ignited and confined.
Chemical stability	Unstable when exposed to sources of heat, sunlight or artificial ultraviolet light.
Possibility of hazardous Reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with incompatible materials. Direct sunlight, artificial ultraviolet light, flame, and heat.
Incompatible materials	Strong acids, alkalis, oxidizers, and amines.
Hazardous decomposition Products	Carbon monoxide, carbon dioxide, oxides of nitrogen. Decomposition becomes measurable above 50°C (122°F)

Section 11 - TOXICOLOGICAL INFORMATION

Inhaled	• Dust may irritate respiratory system. • Inhalation of vapors may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination and vertigo. • Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. • Serious poisonings may result in respiratory depression and may be fatal.
Ingestion	• Harmful if swallowed. • Ingestion may cause gastrointestinal irritation.
Skin Contact	• May be harmful in contact with skin. • May cause skin irritation. • May cause an allergic skin reaction.
Eye	• Causes eye irritation.
Chronic	• This product contains Diphenylamine, which has been shown to induce kidney damage. The low concentration of this material in, and the nature of the product, would preclude development of such an effect.

Information on toxicological effects

Acute toxicity	Nitroglycerine will produce dilation of blood vessels and a drop in blood pressure which may affect the heart. It has also been shown to cause methemoglobinemia (cyanosis).
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation
Respiratory sensitization	May cause respiratory irritation.
Skin sensitization	May cause skin sensitization.
Germ cell mutagenicity	This product or any of its ingredients are not known or reported to be mutagenic
Carcinogenicity	This product contains N-Nitrosodiphenylamine, which is reported as a possible human carcinogen by IARC.
Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	Not Classified
Specific target organ toxicity - repeated exposure	May cause damage to the circulatory system, blood, kidneys, and liver through prolonged or repeated exposure.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.

Section 12 - ECOLOGICAL INFORMATION

AQUATIC TOXICITY: Do not discharge into sewers or waterways.

Ecotoxicity	Toxic to aquatic life with long lasting effects.
Persistence and degradability	No data available on product mixture
Bioaccumulative potential	No data available on product mixture
Mobility in soil	No data available on product mixture
Other adverse effects	No other adverse environmental effects known.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal instructions:

If material becomes a waste, it may be treated by controlled burning in small quantities if permissible by relevant regulatory agencies (such as in a RCRA permitted open burn unit or incinerator). Material should be spread into thin layers and ignited from a safe distance. Dispose of in accordance with applicable federal, state, and local regulations. Do not discharge into drains, water courses or onto the ground.

Local disposal regulations

Dispose of in accordance with local regulations.

Waste from residues/unused products

Care must be taken to prevent environmental contamination from the use of this material. The user has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant laws and regulations.

Section 14 - TRANSPORT INFORMATION

DOT / IMDG:

UN Number	UN0161

UN Proper Shipping Name	Powder, Smokeless
Transport Hazard Class(es)	1.3 C
Packing Group	Not applicable
Special precautions for user	This material is a dangerous good for transport. All involved staff must be appropriately trained.
Other information	Above classification relates to the specific packaging in which this material is supplied by the manufacturer. If the material is repackaged, this classification will no longer be relevant.

IATA:

UN Number	Forbidden
UN Proper Shipping Name	Forbidden
Transport Hazard Class(es)	Forbidden
Packing Group	Forbidden

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Section 15 - REGULATORY INFORMATION

US Federal Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)

Nitroglycerine (10 lbs); Dibutyl phthalate (10 lbs); N-Nitrosodiphenylamine (100 lbs); Ethyl acetate (5000 lbs)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories:

Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	Yes

SARA 302 Extremely hazardous substance

Not listed.

SARA 313 (TRI reporting

Nitroglycerin (55-63-0); Dibutyl Phthalate (84-74-2); Diphenyl amine (122-39-4)

US State Regulations

US. Massachusetts RTK - Substance List

Nitrocellulose (9004-70-0); Nitroglycerin (55-63-0); Dibutyl Phthalate (84-74-2); Potassium Nitrate (7757-79-1); Ethyl Acetate (141-78-6); Diphenyl amine (122-39-4); N-Nitrosodiphenylamine (86-30-6); Calcium Carbonate (1317-65-3); Graphite (7782-42-5).

US. New Jersey Worker and Community Right-to-Know Act

Nitrocellulose (9004-70-0); Nitroglycerin (55-63-0); Dibutyl Phthalate (84-74-2); Potassium Nitrate (7757-79-1); Ethyl Acetate (141-78-6); Diphenyl amine (122-39-4); N-Nitrosodiphenylamine (86-30-6); Tin dioxide (18282-10-5); Calcium Carbonate (1317-65-3); Graphite (7782-42-5).

US. Pennsylvania Worker and Community Right-to-Know Law

Nitrocellulose (9004-70-0); Nitroglycerin (55-63-0); Dibutyl Phthalate (84-74-2); Potassium Nitrate (7757-79-1); Ethyl Acetate (141-78-6); Diphenyl amine (122-39-4); N-Nitrosodiphenylamine (86-30-6); Calcium Carbonate (1317-65-3); Graphite (7782-42-5).

US. Rhode Island RTK

Nitroglycerin (55-63-0); Dibutyl Phthalate (84-74-2); Ethyl Acetate (141-78-6); Diphenyl amine (122-39-4); N-Nitrosodiphenylamine (86-30-6).

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material contains a chemical currently listed as a carcinogen and/or developmental and reproductive toxin.

Toxic Substance Control Act

Components of this product are listed on the United States & Puerto Rico Toxic Substances Control Act

(TSCA) Inventory

Section 16 - OTHER INFORMATION

Revision Date: 11/05/2015

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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