

Single-Base Gun Powder  
Western Powders, Inc.  
Issue Date: 11/05/2015

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

## Section 1 - Identification of the Mixture and of the Company

### Product Names:

Accurate Solo 1000, Accurate LT-30, Accurate LT-32, Accurate 2015, Accurate 2495, Accurate 4064, Accurate 4350

### Trade Names and Synonyms:

Extruded gunpowder, Single-base gunpowder.

### Relevant Identified Uses:

Product is intended for use in smokeless propellant applications only.

### Distributed By:

**WESTERN POWDERS, INC.**

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**Emergencies – Chemtrec – 1-800-424-9300**

## 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
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.

### **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](http://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	
Dibutyl Phthalate	84-74-2	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	
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/m <sup>3</sup>	
Diphenylamine	122-39-4	10 mg/m <sup>3</sup>	None established	
N-Nitrosodiphenylamine	86-30-6	None established	None established	
Tin Dioxide	18282-10-5	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	Tin oxide and inorganic compounds
Calcium Carbonate	1317-65-3	None established	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)	
Graphite	7782-42-5	2 mg/m <sup>3</sup> (respirable fraction)	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)	

### **Biological limit values**

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

### **Exposure Controls**

<b>Appropriate engineering Controls</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>• Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation</li> </ul>
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	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.
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> </ul>
<b>Skin protection</b>	<ul style="list-style-type: none"> <li>Wear appropriate chemical resistant, flame retardant clothing (e.g. coveralls or lab coat).</li> </ul>
<b>Hands/feet protection</b>	Wear impermeable gloves.
<b>Respiratory protection</b>	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.
<b>General hygiene Considerations</b>	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

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

## Section 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	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.
<b>Chemical stability</b>	Unstable when exposed to sources of heat, sunlight or artificial ultraviolet light.
<b>Possibility of hazardous Reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid contact with incompatible materials. Direct sunlight, artificial ultraviolet light, flame, and heat.
<b>Incompatible materials</b>	Strong acids, alkalis, oxidizers, and amines.
<b>Hazardous decomposition Products</b>	Carbon monoxide, carbon dioxide, oxides of nitrogen. Decomposition becomes measurable above 50°C (122°F)

## Section 11 - TOXICOLOGICAL INFORMATION

<b>Inhaled</b>	<ul style="list-style-type: none"> <li>Dust may irritate respiratory system.</li> <li>Inhalation of vapors may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of coordination and vertigo.</li> <li>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic</li> </ul>
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	<ul style="list-style-type: none"> <li>effects, slowed reaction time, slurred speech and may progress to unconsciousness.</li> <li>Serious poisonings may result in respiratory depression and may be fatal.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>Harmful if swallowed.</li> <li>Ingestion may cause gastrointestinal irritation.</li> </ul>
<b>Skin Contact</b>	<ul style="list-style-type: none"> <li>May be harmful in contact with skin.</li> <li>May cause skin irritation.</li> <li>May cause an allergic skin reaction.</li> </ul>
<b>Eye</b>	<ul style="list-style-type: none"> <li>Causes eye irritation.</li> </ul>
<b>Chronic</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>

### Information on toxicological effects

<b>Acute toxicity</b>	Excessive exposure to dust by inhalation has been reported to cause bladder damage, rapid heartbeat, increased blood pressure, and skin rash.
<b>Skin corrosion/irritation</b>	May cause skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation
<b>Respiratory sensitization</b>	May cause respiratory irritation.
<b>Skin sensitization</b>	May cause skin sensitization.
<b>Germ cell mutagenicity</b>	This product or any of its ingredients are not known or reported to be mutagenic
<b>Carcinogenicity</b>	This product contains N-Nitrosodiphenylamine, which is reported as a possible human carcinogen by IARC.
<b>Reproductive toxicity</b>	May damage fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	Not Classified
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to the circulatory system, blood, kidneys, and liver through prolonged or repeated exposure.
<b>Aspiration hazard</b>	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.**

<b>Ecotoxicity</b>	Toxic to aquatic life with long lasting effects.
<b>Persistence and degradability</b>	No data available on product mixture
<b>Bioaccumulative potential</b>	No data available on product mixture
<b>Mobility in soil</b>	No data available on product mixture
<b>Other adverse effects</b>	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:

<b>UN Number</b>	UN0161
<b>UN Proper Shipping Name</b>	Powder, Smokeless
<b>Transport Hazard Class(es)</b>	1.3 C
<b>Packing Group</b>	Not applicable
<b>Special precautions for user</b>	This material is a dangerous good for transport. All involved staff must be appropriately trained.
<b>Other information</b>	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:

<b>UN Number</b>	Forbidden
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<b>UN Proper Shipping Name</b>	Forbidden
<b>Transport Hazard Class(es)</b>	Forbidden
<b>Packing Group</b>	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)**

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)**

Dibutyl Phthalate (84-74-2); Diphenyl amine (122-39-4)

**US State Regulations**

**US. Massachusetts RTK - Substance List**

Nitrocellulose (9004-70-0); 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); 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); 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**

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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