



# MATERIAL SAFETY DATA SHEET

## AUSTINITE

DATE JUNE 2008

MSDS NO. B-1

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### SECTION I

Issued by the Safety and Compliance Dept.

Austin Powder Company  
25800 Science Park Drive  
Cleveland, Ohio 44122

TRADE NAME AND SYNONYMS  
Ammonium Nitrate-Fuel Oil Mixture, ANFO  
Austinite 15  
Austinite 30

**CHEMTREC (24HR Emergency Telephone), call  
1-800-424-9300-** United States, Canada, Puerto Rico (U.S.  
Commonwealth) and the Virgin Islands (U.S. Territory).  
**International callers, dial the U.S. access number followed by  
1-703-527-3887 (Mexico access number 00).  
U.S. Maritime callers dial- 1-703-527-3887.**

For non-emergency assistance, call  
216-464-2400

### SECTION II HAZARDOUS INGREDIENTS

Ammonium Nitrate: $\text{NH}_4\text{NO}_3$	CAS No. 6484-52-2	(92 to 97%)
Fuel Oil: Combustible Liquid,	CAS No. 68476-30-2	(3 to 8%)

The mixture is classified by DOT as a Blasting Agent Type B or Blasting Explosive, Type B.

### SECTION III PHYSICAL DATA

BOILING POINT,	349 ( $^{\circ}\text{F}$ )	176 ( $^{\circ}\text{C}$ )	VAPOR PRESSURE (mm Hg)	0.4 @ 68 $^{\circ}\text{F}$
SPECIFIC GRAVITY ( $\text{H}_2\text{O} = 1$ )	0.85 to 1.10		VAPOR DENSITY (Air = 1)	4.7
PERCENT VOLATILE BY VOL. (%)	Approx. 6		EVAPORATION RATE: (Water=1)	Slower
SOLUBILITY IN WATER: $\text{NH}_4\text{NO}_3$	118.3 g/100cc @ 0 $^{\circ}\text{C}$			
APPEARANCE AND ODOR:	Granular beige-white, pink or orange ( Canada), material with hydrocarbon ( fuel oil) odor.			

### SECTION IV FIRE AND EXPLOSION DATA

FLASH POINT: Fuel Oil 125 $^{\circ}\text{F}$  Minimum P.M.  
FLAMMABLE LIMITS: Fuel Oil Lower 0.7% Upper 5.0%  
EXTINGUISHING MEDIA: See below.  
SPECIAL FIRE FIGHTING PROCEDURES: Do not fight fires. Withdraw personnel immediately. Allow fire to burn itself out. Avoid toxic fumes from fire.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: May explode when subjected to fire or shock, especially when confined and in large quantities.

### SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: ACGIH: Ammonium Nitrate - None Oil mist, mineral, 5 MG/M $^3$   
OSHA : Ammonium Nitrate - None Oil mist, mineral, 5 MG/M $^3$   
EFFECTS OF OVEREXPOSURE: Acute: Ingestion of large amounts may cause cyanosis, nausea, collapse, vomiting, abdominal pain, rapid heartbeat, rapid breathing, coma, convulsions, and death may occur.

#### EMERGENCY AND FIRST AID PROCEDURES:

Eyes: Slight irritant. Flush with large amounts of water.  
Skin: Slight irritant. Wash with mild soap and water.



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### SECTION VI REACTIVITY DATA

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**STABILITY:** Stable under normal conditions. May explode when subjected to fire or shock, especially when confined and in large quantities.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Avoid all contamination, especially peroxides and chlorates. Alkaline contamination may liberate ammonia fumes.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Gaseous nitrogen oxides and carbon oxides: Toxic decomposition products including carbon monoxide (CO) may migrate to off blast-site areas.

**HAZARDOUS POLYMERIZATION WILL NOT OCCUR.**

### SECTION VII SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Sweep up and dispose of all spilled material immediately. Do not permit smoking or open flames near spill site.

**WASTE DISPOSAL METHOD:** Uncontaminated material may be placed in large diameter boreholes and detonated so that the energy is utilized as originally intended. This material may become a hazardous waste under certain conditions. Call Austin Powder for recommendations and assistance. It must be collected, labeled and disposed of under direct supervision of a qualified person according to local, state and federal regulations.

**TRANSPORTATION EMERGENCIES** involving spills, leaks, fires or exposures in the United States, Canada, Puerto Rico (U.S. Commonwealth) and the Virgin Islands (U.S. Territory): **CALL CHEMTREC** for emergencies only: 1-800-424-9300.

**International callers**, dial the U.S. access number followed by 1-703-527-3887 (Mexico access number 00).

**U.S. Maritime callers dial-** 1-703-527-3887. All calls are recorded.

### SECTION VIII SPECIAL PROTECTION INFORMATION:

**RESPIRATORY PROTECTION:** Not required under normal conditions.

**VENTILATION:** Not required under normal conditions.

**PROTECTIVE GLOVES:** Not required for normal conditions. Slight skin irritant.

**EYE PROTECTION:** Not required under normal conditions. Slight eye irritant.

### SECTION IX SPECIAL PRECAUTIONS

COMPLY WITH THE SAFETY LIBRARY PUBLICATION NO. 4 "WARNINGS AND INSTRUCTIONS" AS ADOPTED BY THE INSTITUTE OF MAKERS OF EXPLOSIVES.

TRANSPORTATION, STORAGE AND USE MUST COMPLY WITH OSHA SAFETY AND HEALTH STANDARDS 29CFR1910.109, APPLICABLE MSHA REGULATIONS, THE DOT AND HAZARDOUS MATERIALS REGULATIONS, BATF REQUIREMENTS AND STATE AND LOCAL TRANSPORTATION, STORAGE AND USE REGULATIONS AND ORDINANCES.

DOT proper shipping description for Domestic transportation: Ammonium Nitrate-Fuel Oil Mixture, 1.5D, NA0331, PG II.

DOT or IMDG proper shipping description for Domestic or International transportation: Explosive, Blasting, Type B or Agent, Blasting, Type B, 1.5D, UN0331, PG II. Exemption DOT-E11156 authorizes shipment of multi-wall, stitch top closure, water-resistant bags.

This product should be kept dry and the oldest material used first. Use only proper primers. Avoid wet holes and inadequate confinement. If these restrictions are observed, the formation of toxic fumes from detonation will be minimized.

None of the components are listed in the 1987 IARC Monographs, Group 1, 2A or 2B as known, probable, or possible carcinogens, nor are they listed in the NTP annual report on carcinogens.