

**Material Safety Data Sheet**

February 2003

**MSDS 9703****NorAnfo WR**

Water Resistant Anfo

**Section I - Material Identification and Use**

<b>Product Name</b> NorAnfo WR	<b>Product Family</b> ANFO Mixture (Hydratable)	<b>Chemical Name</b> Organic Explosive
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<b>Manufacturer's Name</b> Norex Explosives Ltd.	<b>Manufacturer's Address</b> (Dane, Ontario) P.O. Box 790 Kirkland Lake, Ontario, Canada P2N 3K4
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<b>Emergency Telephone</b> 705-642-3265 705-668-0429 705-668-0439	<b>Fax Number</b> 705-642-3266
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**Trade Name and Synonyms**  
NorAnfo WR WR Anfo

<b>Chemical Family</b> Organic Nitrate Explosive	<b>Material Usage</b> Blasting Agent
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**Section II - Hazardous Ingredients of Material**

Hazardous Ingredients	Concentration	C.A.S or U.N. Numbers	L.D. Lo Oral L. D. 50
Ammonium Nitrate	90.00%	UN0222	Oral - 4820 mg /kg (rats)
Fuel Oil	5.00% to 6.00%	CAS68334-30-5 UN 1233	5000 mg /kg (rats)
Guar Gum	4.00% to 5.00%	Unclassified Food Product	

**Section III - Physical Data for Material**

<b>Physical, Odor &amp; Appearance</b> Solid, Granular, Slightly Oily, Pinkish Gray ** AN is soluble in water until the guar gum forms a protective sealant	<b>Density</b> 0.84gr/cc	<b>Solubility</b> Water Soluble	<b>PH</b> 5.6 - 6.0
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**Section IV - Fire and Explosion Hazard of the Material**

<b>Flammability</b> Yes	<b>Conditions</b> Non-Spontaneous, will decompose In fire and may explode if confined	<b>Means of Extinction</b> Do Not Fight Fire - Evacuate **MAY EXPLODE**
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**Special Procedure in Case of Fire**  
Evacuate Area Immediately

**Flammability Classification**

1.5D Hazardous Combustion Products --- Oxides of Nitrogen and Carbon

**Explosion Data**

*Insensitive to Static Discharge*

**Sensitivity to Impact**

*greater than 1 meter*

**Rate of Burning**

*won't sustain*

**Explosive Power**

*0.74 Kc/gram*

**Sensitivity Static Discharge**

*only if ground into fine particles*

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**Section V - Reactivity Data****Chemical Stability**

*Do not mix with strong Acids, Alkalis, Gases*

**Incompatibly to Other Substances**

*Acids, Alkalis, Chlorates*

**Reactivity**

*Yields a powerful Explosion in contact with high shock &/or high heat*

**Hazardous Decomposition of Products**

*CO C02 NH3 NO N02*

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**Section V1 - Toxicological Properties of the Material****Possible Routes of Entry**

*Skin Contact (no)*

*Skin Absorption (no)*

*Eve Contact (yes)*

*Inhalation Acute (no)*

**Effect of Acute Exposure**

*Concentrated solutions or dust may be irritating to the eyes, skin or gastro intestinal tract*

**Effects of Chronic Exposure**

*Nil if proper gloves worn and /or cleanliness is followed*

**L.D. 50 Reproductivity**

*45 gm /kg (in rats)*

**Exposure Limit**

*.05 mgm/m3*

**Irritant**

*Nil*

**Sensitivity**

*by grinding*

**Carcinogenicity**

*Mutagenicity Affect - Nil*

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**Section VII - Preventive Measures****Gloves (specify)**

*recommended*

**Respiratory (specify)**

*face mask (if blown)*

**Eye (specify)**

*safety glasses*

**Footwear**

*N/A*

**Clothing(specify)**

*N/A*

**Other (specify)**

*follow the Explosive Act & Department of Labour*

**Engineering Controls (i.e. Ventilation & Enclosure Process)**

*handle as an Explosive*

**Leak and Spill Procedure**

*sweep up and dispose in a blast hole, do not burn, AN component will dissolve in water, guar gum will form a gel upon exposure to water*

**Waste Disposal**

*use in blast holes*

**Handling Procedures and Equipment**

*Refer to Natural Resources Canada – Explosives Regulatory Division*

**Storage Requirements**

*store only in an Approved & Licensed High Explosives Magazine*

**Special Shipping Information**

*UN0331 1.5 D Explosive, Blasting Type B  
permit required for transportation with proper placards displayed on vehicle*

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**Section VIII - First Aid Measures**

**For Skin Contact**

*wash with soap and water*

**For Eye Contact**

*irrigate the eye for 15 minutes*

**For Ingestion**

*if victim is alert and not convulsing, give two glasses of water to dilute material and induce vomiting (obtain immediate medical attention)*

**Further Information**

*refer to Nordex Technical Bulletin "NorAnfo WR"*

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**Section IX - Date of M.S.D.S. (not a Technical Bulletin)**

**Prepared By**

*Nordex Explosives Ltd ..... April 2004*

705-642-3265

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