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**Material Safety Data Sheet**

February 2003

**MSDS 9701**

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# NorAnfo

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**Section I - Material Identification and Use**

Product Name	Product Family	Chemical Name	Chemical Formula
<b>NorAnfo</b>	<i>ANFO Mixture</i>	<i>Organic Explosive</i>	<i>3 (NH<sub>4</sub>NO<sub>3</sub>) CH<sub>2</sub></i>

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**Manufacturer's Name**  
*Nordex Explosives Ltd.*

**Manufacturer's Address**  
*(Dane, Ontario) P.O. Box 790 Kirkland Lake, Ontario, Canada P2N 3K4*

**Emergency Telephone**  
*705-642-3265*  
*705-668-0429*  
*705-668-0439*

**Fax Number**  
*705-642-3266*

**Trade Name and Synonyms**  
*NorAnfo Amex Anfo*

**Chemical Family**  
*Organic Nitrate Explosive*

**Material Usage**  
*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
<i>Ammonium Nitrate</i>	<i>94.33%</i>	<i>UN0222</i>	<i>Oral - 4820 mg /kg (rats)</i>
<i>Fuel Oil</i>	<i>5.67%</i>	<i>CAS68334-30-5 UN 1233</i>	<i>5000 mg /kg (rats)</i>

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**Section III - Physical Data for Material**

**Physical, Odor & Appearance**  
*Solid, Granular, Slightly Oily, Pinkish Gray*

**Density**  
*0.84gr/cc*

**Solubility**  
*Water Soluble*

**PH**  
*5.6 - 6.0*

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**Section IV - Fire and Explosion Hazard of the Material**

**Flammability**  
*Yes*

**Conditions**  
*Non-Spontaneous, will decompose  
In fire and may explode if confined*

**Means of Extinction**  
*Do Not Fight Fire - Evacuate  
\*\*MAY EXPLODE\*\**

**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 to 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*

**Waste Disposal**

*use in blast*

**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"

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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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