

Material Safety Data Sheet**October 2009****MSDS 9703****NorAnfo WR****Water Resistant Anfo****Section I - Material Identification and Use**

| | | |
|-----------------------------------|--|---|
| Product Name NorAnfo WR | Product Family ANFO Mixture (Hydratable) | Chemical Name Organic Explosive |
|-----------------------------------|--|---|

| | |
|---|--|
| Manufacturer's Name Norex Explosives Ltd. | Manufacturer's Address (Dane, Ontario) P.O. Box 790 Kirkland Lake, Ontario, Canada P2N 3K4 |
|---|--|

| | |
|--|----------------------------------|
| Emergency Telephone 705-642-3265 7 705-668-0429 705-668-0439 | Fax Number 05-642-3266 |
|--|----------------------------------|

Trade Name and Synonyms
NorAnfo WR WR Anfo

| | |
|---|---|
| Chemical Family Organic Nitrate Explosive | Material Usage Blasting Agent |
|---|---|

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

| | | | |
|---|-----------------------------|------------------------------------|------------------------|
| Physical, Odor & Appearance Solid, Granular, Slightly Oily, Pinkish Gray ** AN is soluble in water until the guar gum forms a protective sealant | Density 0.84gr/cc | Solubility Water Soluble | PH 5.6 - 6.0 |
|---|-----------------------------|------------------------------------|------------------------|

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 Static Discharge

only if ground into fine particles

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

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

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*

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"

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

Prepared By

Nordex Explosives LtdOctober 2009

705-642-3265

**EMERGENCY CONTACT: Joe Rozon, Plant Manager
705-642-3265
705-668-0429**