

**NYCO Minerals Inc.**

**Safety Data Sheet (in compliance with REACH Regulation (EC) N° 1907/2006, (EC) N° 1272/2008, and (EC) N° 453/2010**

**Name of the product: [Wollastonite](#)**

**Revision date: December 3, 2010**

**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY UNDERTAKING**

**1.1 Identification of the substance or preparation**

Name: Wollastonite

REACH Registration number: Wollastonite is exempted according to Annex V.7

Trade Names: NYAD®, NYGLOS®, HARRP®, ASPECT®, ULTRAFIBE®

Chemical name / Synonyms: Wollastonite, Calcium silicate

**1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against**

Wollastonite is a versatile functional mineral filler and specialty additive used in a variety of applications such as plastics / elastomers, paints & coatings, adhesives & sealants, construction, friction and metallurgical. The applications listed here are non-exhaustive. The different product grades can also be surface modified to give improved processing characteristics and further enhance mechanical properties in the application.

**1.3 Company identification**

Name: Minera Roca Rodando

Address: Carr. Mina Pilares Km. 0.0 Carr. A Nogales km 15.5, Hermosillo, Sonora, Mexico

Phone N°: +52-662-289-1000

Fax N°: +52-662-289-1090

E-mail of responsible person for SDS: sal.larosa@nycominerals.com

**1.4 Emergency telephone**

Emergency telephone number: +52-662-289-1000

Available outside office hours?

Yes  No Normal business hours are 0800 – 1700 (Pacific Standard Time)

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

This product does not meet the criteria for classification as hazardous as defined in the Regulation EC 1272/2008 and in Directive 67/548/EC. This product should be handled with care to avoid / minimize dust generation; it contains a low level of respirable crystalline silica (<0.025 mg/m<sup>3</sup>) which is well below the 1% regulatory labeling requirement for respirable crystalline silica content.

**Classification EU (67/548/EC):**

No classification

**Regulation EC 1272/2008:**

No classification

## **2.2 Label Elements**

Hazard pictogram according to EC 1272/2008:

No classification or signal words

## **2.3 Other Hazards**

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **Main Constituent**

	CAS Number	EINECS No.	%	EU Classification
Natural wollastonite	13983-17-0	237-772-5	>99.5	No classification

### **Impurities**

Respirable Crystalline Silica: <0.025 mg/m<sup>3</sup>

## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

**Inhalation:** Remove individual to fresh air. Drink water to clear throat and blow nose to evacuate dust. If coughing and irritation develop, call a physician.

**Eye Contact:** Flush eye with water until irritation subsides, at least 15 minutes. See a physician if irritation persists.

**Skin Contact:** Use normal good personal hygiene practices. Wash with mild soap and warm water after each exposure.

**Ingestion:** Emergency procedures not normally required. May be a temporary irritant to the GI system.

### **4.2 Most important symptoms and effects both acute and delayed**

No acute and delayed symptoms are observed

### **4.3 Indication of any immediate medical attention and special treatment needed**

No specific actions are required

## **5. FIRE-FIGHTING MEASURES**

### **5.1 Extinguishing Media**

Not applicable. Product will not burn

### **5.2 Special hazards arising from the substance or mixture**

Non combustible. No hazardous thermal decomposition

### **5.3 Advice for firefighters**

No specific special firefighting protection is required

## 6. ACCIDENTAL RELEASE MEASURES

### **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid airborne dust generation, wear personal protective equipment in compliance with national legislation

### **6.2 Environmental precautions**

No special requirement

### **6.3 Methods and materials for containment and cleaning up**

Avoid dry sweeping and use water spraying or vacuum cleaning systems to minimize airborne dust generation. Wear personal equipment in compliance with national legislation.

### **6.4 Reference for other sections**

See sections 8 and 13

## 7. HANDLING AND STORAGE

### **7.1 Precautions for safe handling**

When handling the product, avoid exposure and ensure proper respiratory protection if dust potential exceeds PEL/TLV/OEL. Limit use of power tools unless in conjunction with local exhaust. Use hand tools whenever possible. Frequently clean the work area with HEPA filtered vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean-up. In case of insufficient ventilation, wear suitable respiratory protective equipment. Good housekeeping practices should be employed to prevent generation and accumulation of dusts. Handle packaged products carefully to prevent accidental bursting.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Technical measures / Precautions**

Minimize airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products to prevent accidental bursting.

### **7.3 Specific end use**

If you require advice on specific uses, please contact your supplier.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **8.1 Control Parameters**

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust, respirable crystalline silica dust).

#### **US Occupational Exposure Limits:**

<b>TLV</b>	<b>PEL</b>
10 mg/m <sup>3</sup> <sup>(1)</sup>	15 mg/m <sup>3</sup> <sup>(total)</sup>
3 mg/m <sup>3</sup> <sup>(R)</sup>	5 mg/m <sup>3</sup> <sup>(resp)</sup>

Key: TLV = ACGIH, 8 hr. Time Weighted Average (TWA) for Particulates Not Otherwise Classified (PNOC); <sup>I</sup> = Inhalable fraction;  
<sup>R</sup> = Respirable fraction; PEL = OSHA permissible exposure limit for Particulates Not Otherwise Regulated (PNOR); <sup>total</sup> = Total dusts;  
<sup>resp</sup> = Respirable dusts.

### International Occupational Exposure Limits:

Great Britain	10 mg/m <sup>3</sup> (total inhalable dust); 4 mg/m <sup>3</sup> (respirable dust)
Austria	10 mg/m <sup>3</sup> (total dust)
France	10 mg/m <sup>3</sup> (general dust)
Ireland	10 mg/m <sup>3</sup> (total dust); 4 mg/m <sup>3</sup> (respirable dust)
Poland	4 mg/m <sup>3</sup> (total dust)
Denmark	1 fiber/cm <sup>3</sup> (wollastonite)
Sweden	0.5 fibers/ml (natural fibers)
Canada, Quebec	1 fibre/cm <sup>3</sup> (wollastonite TWAEV)

## 8.2 Exposure controls

### 8.2.1 Appropriate Engineering Controls

Occupational Exposure Controls – Minimize airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below exposure limits.

### 8.2.2 Individual protection measures, such as personal protection equipment

a) **Eye Protection:** Wear safety glasses with side shields or goggles to protect eyes against dust and particulate matter.

b) **Skin Protection:** No specific requirement. Under normal conditions, the use of protective gloves and clean, body-covering clothing are adequate. Wash hands at the end of each work session.

c) **Respiratory Protection:** In the case of prolonged exposure to airborne dust concentrations, it is recommended to wear respiratory equipment.

### 8.2.3 Environment Exposure Controls

Aviod wind dispersal

## 9. PHYSICAL and CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

**Appearance** Acicular, free flowing non-metallic white mineral powder.

**Color:** White

**Odor:** No characteristic odor.

**Melting Point:** 1540° C

**Density:** 2.9 g/mL

**Solubility in Water:** 0.01 g/100 cc

**pH:** 9.9 10% Aqueous Solution

### 9.2 Other Information

No information

## 10. STABILITY and REACTIVITY

### **10.1 Reactivity**

Product is inert, not reactive.

### **10.2 Chemical stability**

Product is chemically stable under normal conditions

### **10.3 Possibility of hazardous reactions**

No hazardous reactions

### **10.4 Conditions to avoid**

Product will begin to dissolve in very strong acids

### **10.5 Incompatible materials**

No particular incompatibility

### **10.6 Hazardous decomposition products**

Not relevant

## **11. TOXICOLOGICAL INFORMATION**

- (a) Acute toxicity – Based upon the available data, the classification is not met
- (b) Skin corrosion / irritation – Based upon the available data, the classification is not met
- (c) Serious eye damage / injury – Based upon the available data, the classification is not met
- (d) Respiratory / skin sensitization – Based upon the available data, the classification is not met
- (e) Germ cell mutagenicity – Based upon the available data, the classification is not met
- (f) Carcinogenicity – Based upon the available data, the classification is not met. Wollastonite was evaluated and classified by IARC as Class 3 (“Cannot be classified as a carcinogenic to humans”).
- (g) Reproductive toxicity – Based upon the available data, the classification is not met
- (h) STOT-single exposure – Based upon the available data, the classification is not met
- (i) STOT-repeated exposure – Based upon the available data, the classification is not met

### **Toxicology and Epidemiology Overview:**

A review on the toxicology and epidemiology of wollastonite was published in 2005 in the journal *Inhalation Toxicology* (Maxim and McConnell, 2005; see references in Section 16). In general, studies have focused on the effects of wollastonite on the lungs and have been negative for pulmonary fibrosis, lung cancer, or mesothelioma.

Maxim and McConnell (2005) conclude that there is inadequate evidence for the carcinogenicity of wollastonite in animals and, based on strong evidence that wollastonite is not biopersistent, believe that a well-designed animal inhalation bioassay would have a negative result. The epidemiological evidence for wollastonite is limited, but does not suggest that workers are at significant risk of an increased incidence of pulmonary fibrosis, lung cancer, or mesothelioma. Morbidity studies have demonstrated a non-specific increase in bronchitis and reduced lung function.

### **Toxicological Hazards:**

The International Agency for Research on Cancer (IARC) has classified wollastonite as Group 3: Unclassifiable as to carcinogenicity to humans.

The Australian National Occupational Health and Safety Commission (NOHSC) noted that “there is sufficient evidence for the non-toxicity and non-carcinogenicity of wollastonite fibers in experimental animals” and that there is “inadequate evidence for the toxicity and carcinogenicity of wollastonite fibers in humans.” (Douglas, 2001; see reference in Section 16).

The German MAK Commission evaluation states: “In all probability, wollastonite fibers do not have any carcinogenic affects.”

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Not relevant

### **12.2 Persistence and degradability**

Not relevant

### **12.3 Bioaccumulative potential**

Not relevant

### **12.4 Mobility in soil**

Negligible

### **12.5 Results of PBT and vPvB assessment**

Not relevant

### **12.6 Other adverse effects**

No specific adverse effects known

**Ecological Hazards:** Wollastonite is a naturally occurring mineral. Unless contaminated in service, this product is neutral to the environment.

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

Waste from residues / unused products – When possible, recycling is preferable to disposal. Waste can be disposed of in compliance with local regulations.

Packaging – Dust formation from residues in packaging should be avoided and suitable worker protection assured. Store used packaging in enclosed receptacles.

Wollastonite is not classified as a hazardous waste. Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements. Wollastonite may be disposed in an approved landfill unless contaminated in service. If contaminated with hazardous materials, place waste in suitable container. Seal and properly label the waste container. Send the container to an approved Transportation, Storage and Disposal (TSD) facility via an approved waste hauler. Be sure manifests have been completed and an adequate "Paper trail" has been established.

## **14. TRANSPORT INFORMATION**

### **14.1 UN Number**

Not relevant

### **14.2 UN proper shipping name**

Not relevant

### **14.3 Transport hazard classes**

ADR: Not classified

IMDG: Not classified

ICAO/IATA: Not classified

RID: Not classified

### **14.4 Packing group**

Not applicable

#### **14.5 Environmental hazards**

Not relevant

#### **14.6 Special precautions for user**

No special precautions

#### **14.7 Transport in bulk according to Annex II of MARPOL73/78 and IBC code**

Not relevant

### **15. REGULATORY INFORMATION**

Refer to Section 8 for referenced occupational exposure limits.

#### **15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture**

##### **National legislation / requirements**

**USA:** **EPA-TSCA:** Wollastonite is exempt from the *TSCA Inventory* as a naturally occurring mineral. All proprietary surface treatments are included on the *TSCA Inventory*.  
**EPA-CERCLA Reportable Quantity:** N/Ap.  
**EPA-SARA Title III:** Substances in this product are not reportable under Section 313.  
**EPA-FIFRA:** Wollastonite is present on the list of Pesticide Product Inert Ingredients.  
**FDA:** Approved as pigment or colorant in food contact surface coatings, 21 CFR 175.300.  
**OSHA:** Particulate is regulated as nuisance dust - Particulate Not Otherwise Regulated (PNOR).  
**ACGIH:** Particulate is regulated as a nuisance dust - Particulate Not Otherwise Classified (PNOC).

##### **International legislation / requirements**

**Australia:** **AICS:** Wollastonite is included in the *Australian Inventory of Chemical Substances*, June 1996 Ed..

**Canada:** **DSL:** As a naturally occurring substance, wollastonite is considered to be on the Canadian Domestic Substances List (DSL).  
**WHMIS:** Not controlled by WHMIS.

**China:** **IECSC:** Wollastonite is included in the *Inventory of Existing Substances in China*.

**EEC:** **EINECS/ELINCS:** All components of this product are included in the EINECS AND ELINCS EEC Chemical Inventories.  
**IUCLID:** Chemical information on wollastonite has been submitted for inclusion in the *International Uniform Chemical Information Database*.  
**67/548/EEC:** ALTox a/s has on 27/7/98 evaluated and determined that wollastonite is not to be classified according to EEC directive (67/548/EEC).  
**95/3/EC, Annex III:** Listed for use in "Plastic materials and articles intended to come into contact with foodstuffs.

**Germany:** Water Hazard Classification – NWG (non-hazardous to water)

**Japan:** **ENCS:** Wollastonite is exempt from the list of *Existing and New Chemical Substances* as a naturally occurring mineral.

**Korea:** **ECL:** Wollastonite is included in the *Korean Existing Chemical List*, ECL Number KE-35416.

**New Zealand:** **ERMA:** Wollastonite is included in the Environmental Risk Management Authority

**Philippines:** **PICCS:** Wollastonite is included in the *Philippine Inventory of Chemicals and Chemical Substances*.

**Taiwan:** **ECN:** Wollastonite is exempt from the Inventory Control List

#### **15.2 Chemical safety assessment**

Exempted from REACH registration in accordance to V.7.

## 16. OTHER INFORMATION

### Indication of the changes made compared to the previous version of the SDS

Reformatting to be in compliance with REACH

### Third Party Materials

Not applicable

### Liability

The foregoing information has been compiled by *NYCO Minerals* from sources it considers reliable and as of the date of this document, is believed to be accurate to the best of *NYCO Minerals* knowledge. Before using the product identified hereon, all of the foregoing information should be carefully considered. The information herein applies only to the product identified hereon and does not relate to its use in combination with any other material or in any process. The information is provided in good faith to comply with applicable laws. However, no warranty or representation of law or fact, with respect to such information, is intended or given.

### Training

Workers must be informed of the proper handling of this product to minimize dust and their exposure to it.

### References:

Douglas, D. (2001). Chrysotile Asbestos Health Assessment of Alternatives. National Occupational Health and Safety Commission, March 2001. Available online at: <http://www.nohsc.gov.au/pdf/drafts/chrysotile-ha-mar-01.pdf>.

IARC Monograph (1997). 68:283-305.

Maxim, L.D., and E.E. McConnell, (2005). A Review of the Toxicology and Epidemiology of Wollastonite. *Inhalation Toxicology* 17:451-466.

TOMES<sup>®</sup>: Hazardous Substances Data Bank, Registry of Toxic Effects Chemical Substances.