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 with surface treatment

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. The chemicals used for the surface treatments will be registered if needed by the chemical supplier. Surface treatment wollastonite supplied will be REACH compliant.

Trade Names: ASPECT®, NYGLOS®, NYCEM®, RRIMGLOS®, WOLLASTOCOAT®, ULTRAFIBE®

Chemical name / Synonyms: Wollastonite / Calcium silicate, with surface treatment

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^3) 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	>98	No classification
Non-hazardous treatment	Proprietary*	Proprietary	<2	No classification

* = Proprietary silane coating; all chemicals used are listed on the TSCA Inventory and other applicable International Inventory Control Lists.

Impurities

Respirable Crystalline Silica: <0.025 mg/m^3

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, inclding any incompatibilities

Technical measures / Precautions

Minimize airgorne 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:

TLV	PEL
10 mg/m^3 (I)	15 mg/m^3 (total)

3 mg/m^3 (R) 5 mg/m^3 (resp)

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

International Occupational Exposure Limits:

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

Surface treated wollastonites have not been studied extensively. Maxim and McConnell (2005) reviewed a study done to examine the effects of the coating on biopersistence. The study showed that the coatings did not increase the biopersistence and demonstrates that these coatings would not have an impact on the pathogenicty of wollastonite.

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 Bioaccumlative potential
Not relevant
12.4 Mobility in soil
Neglible
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 with surface treatment 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 with surface treatment 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

All chemical used for the proprietary surface treatments are listed on the applicable above International Inventory Lists.

15.2 Chemical safety assessment

Wollastonite is exempted from REACH registration in accordance to V.7.

The chemicals used for the proprietary treatment are REACH listed as applicable by the chemical supplier.

16. OTHER INFORMATION

Indication of the changes made compared to the previous version of the SDS
Reformating 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®: Hazardous Substances Data Bank, Registry of Toxic Effects Chemical Substances.