

Safety data sheet

Printing date: 11.06.2018

According to 1907/2006/EC (REACH), 1272/2008/EC (CLP),
and US GHS

Revision: 11.06.2018

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | |
|------------|--|--|
| 1.1 | Product Identifier | NorZon NV |
| | GHS Product Identifier | NorZon NV |
| | Chemical Name | Mixture (Mixed Oxides) |
| | Trade Name | See Product Identifier |
| | CAS No. | Not available |
| | EINECS No. | Not available |
| | REACH Registration No. | Not available |
| 1.2 | Relevant Identified Uses Of The Substance Or Mixture And Uses Advised Against | |
| | No further relevant information available. | |
| | Application of the substance / the mixture | Product Component |
| 1.3 | Details Of The Supplier Of The Safety Data Sheet | |
| | Company Identification | Washington Mills Electro Minerals Corp. |
| | Address | 1801 Buffalo Avenue Niagara Falls, NY 14302 |
| | Telephone | (716) 278-6600 |
| | E-Mail (Competent Person) | info@washingtommills.com |
| 1.4 | Emergency Telephone Number – ChemTel | |
| | (800)255-3924 (USA/Canada), 813-248-0585 (International) | |

SECTION 2: HAZARDS IDENTIFICATION

| | | | | | |
|----------------|--|--|-------------|----------|----------------|
| 2.1 | Classification Of The Substance Or Mixture | | | | |
| 2.1.1 | Classification according to Regulation (EC) No. 1272/2008 | | | | |
| | The product is not classified as hazardous according to OSHA GHS regulations within the United States. The product is not classified as hazardous according to the CLP regulation. | | | | |
| | Additional information: | | | | |
| | Product has less than 0.1% inhalable dust containing known and/or suspect carcinogens per established guidelines, and is therefore not classifiable as a carcinogen. There are no other hazards not otherwise classified that have been identified. | | | | |
| 2.2 | Label Elements | | | | |
| 2.2.1 | Labelling according to Regulation (EC) No 1272/2008 (CLP) – Not Regulated | | | | |
| | Hazard | Not Regulated | | | |
| | Pictogram(s) | | | | |
| | Hazard-determining components of labelling: | None | | | |
| | Hazard statement(s) | Not Regulated | | | |
| | Hazard description: | | | | |
| | NFPA ratings (scale 0 - 4) | <table style="display: inline-table; border: none;"> <tr> <td style="text-align: center; width: 20px;">Health = 0</td> </tr> <tr> <td style="text-align: center;">Fire = 0</td> </tr> <tr> <td style="text-align: center;">Reactivity = 0</td> </tr> </table> | Health = 0 | Fire = 0 | Reactivity = 0 |
| Health = 0 | | | | | |
| Fire = 0 | | | | | |
| Reactivity = 0 | | | | | |
| | HMIS-ratings (scale 0 - 4) | <table style="display: inline-table; border: none;"> <tr> <td style="text-align: center; width: 20px;">Health = *0</td> </tr> <tr> <td style="text-align: center;">Fire = 0</td> </tr> <tr> <td style="text-align: center;">Reactivity = 0</td> </tr> </table> | Health = *0 | Fire = 0 | Reactivity = 0 |
| Health = *0 | | | | | |
| Fire = 0 | | | | | |
| Reactivity = 0 | | | | | |
| | HMIS Long Term Health Hazard Substances | None of the ingredients are listed. | | | |
| 2.3 | Other Hazards | | | | |
| | Results of PBT and vPvB assessment | PBT: Not applicable. vPvB: Not applicable. | | | |

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS


3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous Components:

| Hazardous Ingredient(s) | %W/W | CAS No. | EC No. | Hazard Pictogram(s) | Hazard Statement(s) |
|-------------------------|--------|------------|-----------|---------------------|---|
| aluminium oxide | 50-100 | 1344-28-1 | 215-691-6 | None | substance with a Community workplace exposure limit |
| zirconium dioxide | 25-50 | 1314-23-4 | 215-227-2 | None | substance with a Community workplace exposure limit |
| titanium dioxide | ≤ 2,5 | 13463-67-7 | 236-675-5 | None | substance with a Community workplace exposure limit |

Dangerous Components (Alternative Classifications):

| Hazardous Ingredient(s) | %W/W | CAS No. | EC No. | Hazard Pictogram(s) | Hazard Statement(s) and Risk (R) Phrase(s) |
|-------------------------|-------|------------|-----------|--|--|
| titanium dioxide | ≤ 2,5 | 13463-67-7 | 236-675-5 |  | Carc. 2, H351 |

Additional information: For the wording of the listed risk phrases refer to section 16. Non-classification as a carcinogen is based on non-inhalable form of product. IARC listings for titanium dioxide note that substance must be respirable.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

- General Information:** No special measures required.
- After Inhalation:** Unlikely route of exposure. Supply fresh air; consult doctor in case of complaints.
- After Skin Contact:** Brush off loose particles from skin. Wash with soap and water. If skin irritation is experienced, consult a doctor.
- After Eye Contact:** Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After Swallowing:** Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

- 4.2 Most Important Symptoms And Effects, Both Acute And Delayed** Slight irritant effect on eyes.

Hazards No further relevant information available.

- 4.3 Indication Of The Immediate Medical Attention And Special Treatment Needed** No further relevant information available.

SECTION 5: FIRE-FIGHTING MEASURES

- 5.1 Extinguishing Media**
- Suitable Extinguishing Agents** Use fire extinguishing methods suitable to surrounding conditions.
- Unsuitable Extinguishing Agents** None.
- 5.2 Special Hazards Arising From The Substance Or Mixture** No further relevant information available.
- 5.3 Advice for Fire-Fighters** Wear self-contained respiratory protective device. Wear fully protective suit.
- Additional Information** No further relevant information available.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|--|---|
| 6.1 Personal Precautions, Protective Equipment And Emergency Procedures | Avoid formation of dust. For large spills, wear protective clothing. For large spills, use respiratory protective device against the effects of fumes/dust/aerosol. Ensure adequate ventilation |
| 6.2 Environmental Precautions | No special measures required. |
| 6.3 Methods And Material For Containment And Cleaning Up | Pick up mechanically. Send for recovery or disposal in suitable receptacles. Ensure adequate ventilation. Dispose contaminated material as waste according to item 13. |
| 6.4 Reference To Other Sections | See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information. |

SECTION 7: HANDLING AND STORAGE

| | |
|--|--|
| 7.1 Precautions For Safe Handling | Use only in well ventilated areas. Prevent formation of dust. Any unavoidable deposit of dust must be regularly removed. Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water. |
| Information About Fire – and explosion protection | No special measures required. |
| 7.2 Conditions For Safe Storage, Including Any Incompatibilities: Requirements to be Met by Storerooms and Receptacles: Information About Storage in One Common Storage Facility: Further information about storage conditions: | Store in a cool location. Store away from oxidizing agents. Store away from foodstuffs. Do not store together with acids. Store in cool, dry conditions in well sealed receptacles. |
| 7.3 Specific End Use(s) | No further relevant information available. |

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control Parameters

Ingredients with limit values that require monitoring at the workplace:

| Ingredient | Product Code | Limit Value | Notes |
|-------------------|--------------|-------------|--|
| aluminium oxide | 1344-28-1 | PEL (USA) | Long-term value: 15*; 15** mg/m ³ *Total dust; ** Respirable fraction |
| | | REL (USA) | Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f. |
| | | TLV (USA) | Long-term value: 1* mg/m ³ as Al; *as respirable fraction |
| | | EL (Canada) | Long-term value: 1,0 mg/m ³ respirable, as Al |
| | | EV (Canada) | Long-term value: 10 mg/m ³ total dust |
| zirconium dioxide | 1314-23-4 | PEL (USA) | Long-term value: 5 mg/m ³ as Zr |
| | | REL (USA) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr |
| | | TLV (USA) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ |

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| | | | |
|------------------|------------|-------------|--|
| | | | as Zr |
| | | EL (Canada) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr |
| titanium dioxide | 13463-67-7 | PEL (USA) | Long-term value: 15* mg/m ³ *total dust |
| | | REL (USA) | See Pocket Guide App. A |
| | | TLV (USA) | Long-term value: 10 mg/m ³ withdrawn from NIC |
| | | EL (Canada) | Long-term value: 10* 3** mg/m ³ *total dust;**respirable fraction; IARC 2B |
| | | EV (Canada) | Long-term value: 10 mg/m ³ total dust |

DNELs No further relevant information available.

PNECs No further relevant information available.

Additional information: The lists valid during the making were used as basis.

| | | |
|---|--|---|
| 8.2 | Exposure Controls | |
| 8.2.2 | Personal Protective Equipment: | |
| | General protective and hygienic measures: | The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Do not inhale dust / smoke / mist. Avoid contact with the eyes and skin. |
| | Respiratory Protection | Suitable respiratory protective device recommended. For spills, respiratory protection may be advisable. Use suitable respiratory protective device when high concentrations are present. |
|  | Eye Protection | Safety glasses. |
|  | Protection of Hands | Wear protective gloves. |
| | Body Protection | Not required under normal conditions of use. Protection may be required for spills. |
| | Limitation and supervision of exposure into the environment | No special requirements. |
| | Risk Management Measures | No special requirements. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--|--|----------------------------------|---------------|
| 9.1 | Information On Basic Physical And Chemical Properties | | |
| Appearance | Granulate | Color | Grey |
| Odor | Odourless | Odor Threshold (ppm) | Not available |
| Melting Point (°C) / Freezing Point (°C) | Not available | Boiling Point/Boiling Range (°C) | Not available |
| Flash Point (°C) | No Data | Explosive Limit Ranges | Not available |
| Auto Ignition Temperature (°C) | Not available | Decomposition Temperature (°C) | Not available |
| Explosive Properties | None | Oxidizing Properties | Not available |
| Flammability (Solid, Gas) | Not available | Ph (Value) | Not available |
| Evaporation Rate | N/A | Vapor Pressure (mm Hg) | Not available |

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| | | | |
|---|--|--------------------|-----------------------|
| Vapor Density (Air=1) | N/A | Density at 20 °C: | 4,6 g/cm ³ |
| Solubility (Water) | Insoluble | Solubility (Other) | Not available |
| Partition Coefficient (N-Octanol/Water) | Not available | Viscosity (mPa.s) | Not available |
| 9.2 Other Information | No further relevant information available. | | |

SECTION 10: STABILITY AND REACTIVITY

| | |
|--|---|
| 10.1 Reactivity | |
| 10.2 Chemical Stability | |
| Thermal Decomposition / conditions to be avoided: | No decomposition if used according to specifications. |
| 10.3 Possibility of Hazardous Reactions | Reacts with strong acids and alkali. Reacts with strong oxidising agents. |
| 10.4 Conditions To Avoid | No further relevant information available. |
| 10.5 Incompatible Materials | No further relevant information available. |
| 10.6 Hazardous Decomposition Product(s) | No dangerous decomposition products known. |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|--|---|
| 11.1 Information on Toxicological Effects | |
| Acute toxicity: | |
| Primary Irritant Effect: | |
| On the skin: | No irritant effect. |
| On the eye: | No irritating effect. |
| Sensitisation: | No sensitizing effects known. |
| Additional toxicological information: | When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us. The substance is not subject to classification according to the latest version of the EU lists. |
| CMR effects (carcinogeny, mutagenicity, and toxicity for reproduction): | Contains known or suspect carcinogens when inhaled. Product is in non-inhalable form and is non-classifiable as a carcinogen. |

SECTION 12: ECOLOGICAL INFORMATION

| | |
|--|---|
| 12.1 Toxicity | |
| Aquatic toxicity: | No further relevant information available. |
| 12.2 Persistence and Degradability | No further relevant information available. |
| 12.3 Bioaccumulative Potential | No further relevant information available. |
| 12.4 Mobility in Soil | No further relevant information available. |
| Additional ecological information: | |
| General notes: | Not known to be hazardous to water. |
| 12.5 Results of PBT and vPvB Assessment | PBT: Not applicable. vPvB: Not applicable. |
| 12.6 Other Adverse Effects | No further relevant information available. |

SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|--|---|
| 13.1 Waste Treatment Methods Recommendation | Contact waste processors for recycling information. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous. |
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Uncleaned Packaging:

Recommendation:

Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

| Land Transport (ADR/RID) (c)(d) | | Land Transport (Within USA) (b)(d) | |
|---------------------------------|--|------------------------------------|--|
| UN Number | None | UN Number | None |
| Proper Shipping Name | Not classified as dangerous for transport. | Proper Shipping Name | Not classified as dangerous for transport. |
| Transport Hazard Class(es) | None | Transport Hazard Class(es) | None |
| Packing Group | None | Packing Group | None |
| Hazard Label(s) | None | Hazard Label(s) | None |
| Environmental Hazards | None | Environmental Hazards | None |
| Special Precautions For User | None | Special Precautions For User | None |
| Sea Transport (IMDG) (c) | | Air Transport (ICAO/IATA) (c) (d) | |
| UN Number | None | UN Number | None |
| Proper Shipping Name | Not classified as dangerous for transport. | Proper Shipping Name | Not classified as dangerous for transport. |
| Transport Hazard Class(es) | None | Transport Hazard Class(es) | None |
| Packing Group | None | Packing Group | None |
| Marine Pollutant | None | Marine Pollutant | None |
| Special Precautions For User | None | Special Precautions For User | None |

(b)- ORM-D may be applicable within the USA for package sizes less than 30kg.
(c)- Consult with transport provider.
(d)- Check relevant regulations for Special Provisions.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health And Environmental Regulations/Legislation Specific For The Substance Or Mixture

United States (USA)

SARA

Section 355 (extremely hazardous substances)

None of the ingredients are listed.

SARA 313 (Specific toxic chemical listings)

Aluminum oxide listing is only relevant to fibrous forms and is not applicable to the product as supplied.

TSCA (Toxic Substance Control Act)

All ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

Reference to Titanium Dioxide is based on unbound respirable particles and is not generally applicable to product as supplied.

13463-67-7 titanium dioxide

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenic Categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

13463-67-7 titanium dioxide

2B

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| | | |
|--|-------------------------------------|----|
| TLV (Threshold Limit Value established by ACGIH) | 1344-28-1 aluminium oxide | A4 |
| | 1314-23-4 zirconium dioxide | A4 |
| | 13463-67-7 titanium dioxide | A4 |
| MAK (German Maximum Workplace Concentration) | 1344-28-1 aluminium oxide | 2 |
| | 13463-67-7 titanium dioxide | 3A |
| NIOSH-Ca (National Institute for Occupational Safety and Health) Canada | 13463-67-7 titanium dioxide | |
| Canadian Domestic Substances List (DSL) | All ingredients are listed. | |
| Other regulations, limitations and prohibitive regulations | | |
| Substances of very high concern (SVHC) according to REACH, Article 57 | None of the ingredients are listed. | |

| | |
|--|--|
| 15.2 Chemical Safety Assessment | A Chemical Safety Assessment has not been carried out. |
|--|--|

SECTION 16: OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Additional information:

- The accumulation of airborne dust particles may lead to health and safety risks in some cases. The use of good industrial practices will mitigate this risk.
- The health risks from inhalation of dust particles vary; this is due to particle concentration, exposure length, number of exposures and type of particles inhaled. Please read Section 2,4,6,7 and 8 of the SDS to understand these potential risks. Wear personal protective equipment and follow storage and handling procedures to maintain a safe workplace.
- In rare instances, combustible dusts may represent a potential explosion hazard when airborne. This hazard is often associated with organic dust such as foodstuffs and coal, but may also occur with mineral products. While the majority of our products would be considered non-combustible, the overall airborne environment should be considered when determining the need for mitigation from the potential hazard. Consult recognized experts when necessary in order to determine any possible hazard.

Please read the SDS for specific information concerning these hazards, and contact us with any further questions. We appreciate your continued business.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

Sources

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