

# MATERIAL SAFETY DATA SHEET

## 1 Product and Company Identification

**Product Name:** Purifier for Nitrogen Generator  
**Company Name:**

**VIGI<sup>®</sup> Metronics Inc**  
26272 Twelve Trees Ln NW  
Poulsbo, WA 98370

**Emergency Contact Number**  
1-877-737-1887 or 1-360-697-9199

## 2 Composition

<b>Ingredient</b>	<b>CAS No.</b>	<b>Wt%</b>	<b>ACGIH TLB-TWA</b>	<b>OSHA PEL-TWA</b>
Silicon oxide (synthetic)	7631-86-9	< 45	10 mg/m <sup>3</sup> Inhalable 3 mg/m <sup>3</sup> Respirable	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable fraction
Aluminum oxide (non-fibrous)	1344-28-1	< 32	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable dust
Sodium oxide	1313-59-3	< 15	N/E	N/E
Aluminosilicate	1327-36-2	< 10	10 mg/m <sup>3</sup> Inhalable dust 3 mg/m <sup>3</sup> Respirable dust	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable dust
Magnesium oxide	1309-48-4	< 3	10 mg/m <sup>3</sup> Fume	15 mg/m <sup>3</sup> Fume, total particulate
Potassium oxide	12136-45-7	< 2	N/E	N/E
Water	7732-18-5	< 2	N/E	N/E
Quartz	14808-60-7	< 1	0.05 mg/m <sup>3</sup> Respirable dust	10 mg/m <sup>3</sup> Total dust 3.3 mg/m <sup>3</sup> Respirable dust

### Abbreviations:

N/E - None established  
CAS - Chemical Abstracts Service  
ACGIH - American Conference of Governmental Industrial Hygienists  
TLV - Threshold Limit Value  
OSHA - Occupational Safety and Health Administration - USA  
TWA - Time Weighted Average  
PEL - Permissible Exposure Limit  
STEL - Short-Term Exposure Limit

### Emergency Overview

This product is in a sealed container. Exposure can only take place if the integrity of the container is compromised. In case the container is opened, the contained product can cause irritation to the eyes, skin, or upper respiratory system. Quartz may cause cancer.

### Potential Health Effects

*Primary Routes of Exposure:* The product is in a sealed container. As long as the container is not opened, exposure should not take place.

*Skin Contact:* May cause skin irritation with repeated or prolonged exposure.

*Eye Contact:* Dust and/or product may cause eye discomfort and/or irritation seen as tearing and reddening.

*Ingestion:* This product is considered to have a low order of oral toxicity.

*Inhalation:* Inhalation of product and/or dust may cause irritation of the respiratory system.

*Target Organ:* Prolonged or repeated exposure may cause lung injury or cancer.

### Carcinogenicity Classification

*International Agency for Research on Cancer (IARC)*

Silicon oxide (synthetic) - Not classifiable as human carcinogen (Group 3)

Crystalline silica inhaled in the form of quartz from occupational sources is carcinogenic to humans. (IARC Group 1).

*U.S. National Toxicology Program (NTP)*

Not Regulated

Quartz - Known Human Carcinogen

*U.S. Occupational Safety and Health Administration (OSHA)*

Neither the product nor the component(s) are classified or regulated.

*Skin Contact:* Wash affected area with soap and water. If irritation develops, obtain medical attention.

*Eye Contact:* Flush with water for at least 15 minutes. If irritation occurs, obtain medical attention.

*Ingestion:* Do not induce vomiting. Obtain medical attention.

*Inhalation:* Remove affected person to fresh air. If respiratory problems develop, obtain medical attention.

*Notes to Physician:* Hydrocarbons and other materials that contact the product during normal use can be retained on the product. The retained materials may be hazardous. Identify the retained material and treat accordingly.

*Flash Point:* Unused material will not burn.

*Extinguishing Media:* Use media appropriate for surrounding fire.

*Fire and Explosion Hazards:* Used material may contain materials of a hazardous nature. The user of this product must identify the hazards of the retained material and inform the fire fighters of these hazards.

**6****Accidental Release Measures**

- Large Spill:** Isolate the affected areas. Confine entry into the affected area to those persons properly protected. Special attention should be given to eye, skin, and respiratory protection because recovery of dry product is expected to generate dust. Sweep, shovel or vacuum spilled product into appropriate containers. (Do not use a vacuum if material has contacted a hydrocarbon material.)
- Small Spill:** Sweep or vacuum spilled product into appropriate container. (Do not use a vacuum if material has contacted a hydrocarbon.) Product should be disposed in accordance with all applicable government regulations. See section 13 of MSDS, Disposal Information.

**7****Handling and Storage**

The product is in sealed containers. In the event the seal on the container is breached, store the product in tightly closed, properly labeled containers. Store out of direct sunlight. Store in dry area.

**8****Exposure Controls and Personal Protection**

- Respiratory Protection:** Product is in a sealed container. As long as the seal on the container is not breached, respiratory protection is not needed. If the container seal is breached and natural ventilation is inadequate, use mechanical ventilation, other engineering controls, or a toxic dust respirator (in USA - NIOSH/MSHA approved) to prevent inhalation of product dust.
- Skin Protection:** Use gloves to avoid prolonged or repeated skin contact.
- Eye Protection:** Safety glasses or goggles as necessary to prevent eye contact.

**9****Physical and Chemical Properties**

These data do not represent technical or sales specifications.

<b>Appearance:</b>	Material is in a sealed container
<b>Odor:</b>	None
<b>pH:</b>	Not applicable
<b>% Volatile:</b>	Not applicable
<b>Pour Point:</b>	Not applicable
<b>Viscosity:</b>	Not applicable
<b>Vapor Density:</b>	Not applicable
<b>Specific Gravity:</b>	Not applicable
<b>Apparent Bulk Density:</b>	0.7 ± 0.1 g/cc
<b>Solubility in Water:</b>	Negligible
<b>Boiling Point:</b>	Not applicable
<b>Freezing Point:</b>	Not applicable
<b>Melting Point:</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable

**10****Stability**

<i>Stability:</i>	Stable.
<i>Conditions to Avoid:</i>	None known.
<i>Hazardous Decomposition Products:</i>	Hydrocarbons and other materials that contact the product during normal use can be retained on the product. It is reasonable to expect that decomposition products will come from these retained materials of use.
<i>Hazardous Polymerization:</i>	Will not occur.
<i>Incompatible Materials:</i>	Contact with acids may cause leaching of metals.

**11****Toxicological Information**

<i>Acute Oral Toxicity:</i>	An oral LD <sub>50</sub> is not available for this product.
<i>Acute Dermal Toxicity:</i>	A dermal LD <sub>50</sub> is not available for this product.
<i>Acute Inhalation Toxicity:</i>	An inhalation LC <sub>50</sub> is not available for this product
<i>Irritation:</i>	No data for this product.

**Additional Toxicological Information:**

<i>Aluminum oxide:</i>	Inhalation of finely divided particles may cause lung damage. Intrapleural TD <sub>LO</sub> : 90 mg/kg (rat). Implant TD <sub>LO</sub> : 200 mg/kg (rat). TD <sub>LO</sub> is Toxic Dose Low.
<i>Silicon oxide:</i>	Exposure can cause lung disease called silicosis, with cough and shortness of breath.

**12****Ecological Information**

No data is available for the product.

**13****Disposal Information**

Dispose of the product in accordance with all applicable government regulations. This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity, or toxicity).

**14****Transportation Information**

<i>U.S. Department of Transportation Shipping Name:</i>	Not regulated.
<i>International Maritime Organization (IMO):</i>	Not regulated.

**United States****TSCA** (*Toxic Substances Control Act*):

All the ingredients of this mixture are listed on the TSCA Chemical Substance Inventory.

**CERCLA** (*Comprehensive Environmental Response, Compensation, and Liability Act*) **Reportable Quantity**:

The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

—None—

**SARA** (*Superfund Amendments and Reauthorization Act of 1986*) **Title III**:**Section 302** (Extremely Hazardous Substances):

The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal or greater than the Threshold Planning Quantity (TPQ):

—None—

**Section 313** (Toxic Chemicals):

The following component(s) have been specified as Toxic Chemicals under SARA Section 313 and may be subject to the Toxic Release Inventory (TRI) reporting requirements under 40 CFR 372:

—None—

**European Union (EU)***European Inventory of Existing Commercial Chemical Substances*:

All components of this preparation are included in EINECS/ELINCS.

Silicon oxide (synthetic)	2315454
Aluminum oxide (non-fibrous)	2156916
Sodium oxide	2152089
Aluminosilicate	2154751
Magnesium oxide	2151719
Potassium oxide	2352276
Water	2317912
Quartz	2388784

*Council of European Communities Directive on Classification, Packaging and Labelling of Dangerous Substances/Preparation (67/548/EEC & 88/379/EEC)*:

No Dangerous Goods Label Required.

**Canada***Canadian Hazard Products Act*:

This product is not classified as a controlled product under regulations pursuant to the federal Hazardous Product Act (e.g. WHMIS).

HMIS™ - Hazardous Materials Identification System

<b>HMIS™ Ratings</b>	
HEALTH	1*
FLAMMABILITY	0
REACTIVITY	0

- 0 - minimal hazard
- 1 - slight hazard
- 2 - moderate hazard
- 3 - serious hazard
- 4 - severe hazard
- \* - may cause cancer