

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Aluminum Oxide (Boehmite) Nanowires A4, Research Grade

Catalog Number: NovaWire-AIO-4

Formula: AIOOH

Diameter: ~ 4 nm

Length: ~ 1  $\mu$ m

Supplier: Novarials Corporation  
800 W Cummings Park, Suite 4600  
Woburn, MA 01801

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Fax: +1 781-995-0388

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### 2. HAZARDS IDENTIFICATION

Not a hazardous substance or mixture.

Precautionary statement(s)

P261: Avoid breathing dust

P280: Wear eye protection

P285: In case of inadequate ventilation wear respiratory protection

P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

P302+352: IF ON SKIN: Wash with soap and water

#### NFPA Ratings

Health Hazard: 0

Fire Hazard: 0

Reactivity Hazard: 0

#### HMIS Ratings

Health Hazard: 0

Chronic Health Hazard: \*

Flammability: 0

Physical Hazard: 0

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Boehmite

Formula: AIOOH

Component	Concentration
<b>Aluminum Oxide Hydroxide</b>	
CAS-No.	1318-23-6
EC-No.	215-284-3

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#### 4. FIRST AID MEASURES

##### **General advice**

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

##### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

##### **In case of eye contact**

Rinse thoroughly with plenty of water and consult a physician.

##### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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#### 5. FIREFIGHTING MEASURES

##### **Suitable extinguishing media**

Product itself is non-combustible. Use extinguishing measures appropriate to the source of the fire.

##### **Special protective equipment for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

##### **Hazardous combustion products**

Hazardous decomposition products formed under fire conditions – aluminum oxide

##### **Further information**

Do not use halocarbon extinguishers. The product itself does not burn.

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#### 6. ACCIDENTAL RELEASE MEASURES

##### **Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

##### **Environmental precautions**

Do not let product enter drains.

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

Sweep up and shovel. Keep in suitable, closed containers for disposal.

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#### 7. HANDLING AND STORAGE

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

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

Keep container tightly closed in a cool, dry and well-ventilated place.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye/Face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Control of environmental exposure

Do not let product enter drains.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Form powder

Color white

### Safety data

pH no data available

Melting point/freezing point no data available

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Auto ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure no data available

Density no data available

Water solubility no data available

Partition coefficient:  
n-octanol/water no data available

Relative vapour density no data available

Odour no data available

Odour Threshold no data available

Evaporation rate no data available

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## 10. STABILITY AND REACTIVITY

**Reactivity**

no data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

no data available

**Materials to avoid**

Strong acid, Strong bases, Chlorine trifluoride, Ethylene oxide, Halogenated hydrocarbon, Oxygen difluoride, Sodium nitrate, Vinyl compounds

**Hazardous decomposition products**

Other decomposition products -no data available

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**

no data available

**Specific target organ toxicity -single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity -repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Additional Information**

no data available

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## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US), IMDG, IATA

Not a dangerous goods.

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## 15. REGULATORY INFORMATION

### SARA 302 Components

Not required.

### SARA 313 Components

Not required.

### SARA 311/312 Hazards

Chronic Health Hazard

### Massachusetts Right To Know Components

Boehmite

CAS-No. 1318-23-6

### Pennsylvania Right To Know Components

Boehmite

CAS-No. 1318-23-6

### New Jersey Right To Know Components

Boehmite

CAS-No. 1318-23-6

**California Prop. 65 Components**

This product does not contain any chemical known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. DISCLAIMER**

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