

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Silver Nanowires A30UL, Research Grade**

Catalog Number: NovaWire-Ag-A30UL

Formula: Ag

Diameter: ~ 30 nm

Length: ~ 150 micron

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

Email: info@novarials.com  
Telephone: +1 617-276-5642  
Fax: +1 781-995-0388

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## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### OSHA Hazards

No known OSHA hazards

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

#### HMIS Ratings

Health Hazard:	0
Flammability:	0
Physical Hazard:	0

#### NFPA Ratings

Health Hazard:	0
Fire Hazard:	0
Reactivity Hazard:	0

#### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May causes eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Silver  
Formula: Ag  
Molecular Weight: 107.87 g/mol

Component	Concentration
<b>Silver</b>	
CAS-No.	7440-22-4
EC-No.	231-131-3
<b>Water</b>	
CAS-No.	7732-18-5
EC-No.	231-791-2

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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

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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

##### Hazardous combustion products

no data available

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#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

##### Environmental precautions

Do not let product enter drains.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

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

Air and light sensitive.

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## 8. 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 cartridge. 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 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

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

General industrial hygiene practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Form	suspension
Color	grey

### 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
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

no data available

### Hazardous decomposition products

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

#### Other information on 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 probable, possible or confirmed human carcinogen by IARC.
- 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.
- 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.

## **Reproductive toxicity**

no data available

## **Teratogenicity**

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

## **Signs and Symptoms of Exposure**

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

## **Synergistic effects**

no data available

## **Additional Information**

RTECS: Not 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**

no data available

### **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)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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### 15. REGULATORY INFORMATION

**OSHA Hazards**

No known OSHA hazards

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

Silver

CAS-No. 7440-22-4

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**

Silver

CAS-No. 7440-22-4

**Pennsylvania Right To Know Components**

Silver

CAS-No. 7440-22-4

Water

CAS-No. 7732-18-5

**New Jersey Right To Know Components**

Silver

CAS-No. 7440-22-4

Water

CAS-No. 7732-18-5

**California Prop. 65 Components**

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

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### 16. DISCLAIMER

Novarials Corporation believes that the information in this Safety Data Sheet is accurate and represents

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