

# Material Safety Data Sheet

## Disposable/Reusable Dry/Wet Electrode with Ag/AgCl coating

### Section 1 - Chemical Product and Company Identification

5 mm comb electrode

**Catalog Numbers:** SE5

**Synonyms:**

**Company Identification:**

OpenBCI, Inc.  
67 West St, STE 612  
Brooklyn, NY 11222

**For information, call** +1(267)719-3889

**Emergency Number:** +1(267)719-3889

**For CHEMTREC assistance, call:** n/a

**For International CHEMTREC assistance, call:** n/a

### Section 2 - Composition, Information on Ingredients

Text

CAS#	Chemical Name	Percent	EINECS/ELINCS
9003-56-9	ABS Plastic	99	unlisted
7783-90-6	AgCl coating	1	232-033-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: off-white plastic, fully coated in a gray coating

Expected to be non-hazardous.

**Target Organs:** Blood. For external use only. Do not use on broken skin surfaces or mucous membranes. This could increase possibility of irritation and side effects of internally-used silver-chloride compounds. AgCl coating causes respiratory tract irritation. May cause eye and skin irritation. May cause digestive tract irritation with nausea, vomiting,

and diarrhea. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause mild skin irritation. May cause cyanosis of the extremities in large quantities.

**Ingestion:** Do not ingest. Size and shape of object could cause perforations/obstructions to digestive tract. Coating may cause irritation of the digestive tract. Ingestion of soluble silver salts may cause argyria, characterized by permanent blue-gray pigmentation of the skin, mucous membranes, and eyes. Ingestion of silver compounds may cause abdominal pain, rigidity, convulsions and shock.

**Inhalation:** Could cause respiratory tract irritation and/or obstruction if electrode is inhaled. Do not inhale electrode. For external use only.

**Chronic:** Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs. This malady results from the accumulation of silver in the body. Chronic overexposure to silver compounds may cause argyria (a slate gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

## Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Not expected to be hazardous to the skin. If irritation occurs, flush with plenty of water for 15 minutes and seek medical aid.

**Ingestion:** Do not induce vomiting. Get medical aid immediately. Primary concern is the size and shape of the object, which could cause damage to digestive tract.

**Inhalation:** Contact a medical professional immediately. Primary concern is potential for obstruction of airway. Secondary concern is topical irritation of internal membranes contacted.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** Dusts and heat-released air emissions may be irritating to the eyes, skin, and respiratory system. Under fire conditions, product will readily burn and emit a heavy, irritating smoke. Contact with molten material may cause serious thermal burns. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** >207° C

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 0; Flammability: 1; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Sweep or vacuum loose items into a suitable container. We do not recommend using electrodes that have fallen onto the floor due to dirt/contamination and possible damage to conductive coating, which could reduce signal, and/or increase the small likelihood of coating causing skin irritation.

## Section 7 - Handling and Storage

**Handling:** No special handling procedures are required.

**Storage:** We recommend storing in an airtight container to reduce potential oxidation and degradation of the AgCl coating. A sealed plastic bag or container is adequate. Avoid damp or very humid storage conditions.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** There are no special ventilation requirements.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Poly(acrylonitrile-butadiene-styrene) (ABS plastic)	none listed	none listed	none listed
Silver chloride (AgCl)	none listed	none listed	none listed

**OSHA Vacated PELs:** No OSHA Vacated PELs are listed for these chemicals.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Protective garments not normally required, as product is designed to be used on unbroken skin.

**Clothing:** Protective garments not normally required.

**Respirators:** Respirator protection is not normally required.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** solid object with thin gray exterior coating and off-white opaque interior.

**Odor:** odorless

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** 6.8 estimated.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 190-270 degrees Celcius / 230° F

**Decomposition Temperature:**Not available.

**Solubility:** Insoluble.

**Specific Gravity/Density:** Not Available.

**Molecular Formula:** C<sub>15</sub>H<sub>17</sub>N<sub>1</sub>x , coated with AgCl

**Molecular Weight:** estimated 197.119

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat. High humidity for time periods extending past normal usage (up to 20 applications of up to 2 hours each)

**Incompatibilities with Other Materials:** Oxidizing agents. Ammonia, aluminum, bromine trifluoride, potassium sodium, and sodium peroxide+ charcoal.

**Hazardous Decomposition Products:** Chlorine, silver fumes. Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** interior object: 9003-56-9: AT6970000, exterior coating: 7783-90-6: VW3563000

**LD50/LC50:**

Not available.

**Carcinogenicity:**

Interior object: CAS# 9003-56-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Exterior coating: CAS# 7783-90-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available

**Teratogenicity:** No information available

**Reproductive Effects:** No information available

**Mutagenicity:** No information available

**Neurotoxicity:** No information available

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** Nonhazardous to the environment.

**Physical:** No information available.

**Other:** No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	Not regulated as a hazardous material.	No information available.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### **US FEDERAL**

#### **TSCA**

Interior object: CAS# 9003-56-9 is listed on the TSCA inventory.

Exterior coating: CAS# 7783-90-6 is listed on the TSCA inventory.

#### **Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

#### **Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

#### **Section 12b**

None of the chemicals are listed under TSCA Section 12b.

#### **TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

#### **CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

#### **SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

#### **SARA Codes:**

Interior object: none

Exterior coating: CAS # 7783-90-6: delayed.

#### **Section 313**

Interior object: No chemicals are reportable under Section 313.



Exterior coating: This material contains Silver chloride (listed as Silver compounds), 100%, (CAS# 7783-90-6) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

Interior object: None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

Exterior coating: CAS# 7783-90-6 is listed as a Toxic Pollutant under the Clean Water Act.

**OSHA:**

Interior object: None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

Interior object: CAS# 9003-56-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Exterior coating: CAS# 7783-90-6 can be found on the following state right to know lists: California, (listed as Silver compounds), New Jersey, (listed as Silver compounds), Pennsylvania, (listed as Silver compounds).

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

Interior object: European Labeling in Accordance with EC Directives

**Hazard Symbols:**

Interior object: T

Exterior coating: XI

**Risk Phrases:**

Interior object: R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Interior object: R 45 May cause cancer.

Exterior coating: R 37 Irritating to respiratory system.

**Safety Phrases:**

Interior object: S 37 Wear suitable gloves.

Interior object: S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Interior object: S 53 Avoid exposure - obtain special instructions before use.

Interior object: S 28A After contact with skin, wash immediately with plenty of water

**WGK (Water Danger/Protection)**

Interior object: CAS# 9003-56-9: No information available.

Exterior coating: CAS# 7783-90-6: 1

**Canada - DSL/NDSL**

Interior object: CAS# 9003-56-9 is listed on Canada's DSL List.

Exterior coating: CAS# 7783-90-6 is listed on Canada's DSL List.

**Canada - WHMIS**

Interior object: This product has a WHMIS classification of Not controlled.

Exterior coating: This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

### **Canadian Ingredient Disclosure List**

Interior object: not available

Exterior coating: CAS# 7783-90-6 is not listed on the Canadian Ingredient Disclosure List.

## **Section 16 - Additional Information**

**MSDS Creation Date:** 5/14/2021

**Revision # Date:** n/a

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