



Safety Data Sheet

Advantage Arrest Silver Diamine Fluoride 38%

Section 1 - Identification

Product Name: Advantage Arrest
Synonyms: Silver Diamine Fluoride 38%
Company Identification: Elevate Oral Care
346 Pike Rd Suite 5
West Palm Beach, FL 33411
Issue Date: 04/17/2015
For information, call: Elevate Oral Care, 877-866-9113
Emergency Number: Poison Control Center 800-222-1222
Product Use: Dental, for use in prevention/treatment of dentinal hypersensitivity
Limitations: For use by Dental Professionals

Section 2 - Hazards Identification

Emergency Overview

This information is based on findings from related and/or similar materials.

Please read the entire MSDS for additional information.

Potential Health Effects, Signs, and Symptoms of Exposure:

Signal word: **Danger**

Danger Symbols:

GHS08



GHS07



GHS05



Hazard Statements:

H290, H214, H318, H335, H372, EUH401

Precautionary Statements:

P260, P264, P270, P272, P273, P280.

Response Statements:

P303 & P361, P304 & P340, P305, P351 & P338, P309, P311 & P314, P363, P390.

Storage & Disposal Statements: P405, P406, P501.

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure. May be absorbed following inhalation and cause target organ effects.

Eye Contact:

Will cause eye irritation. Rinse open eyes with running water for 15 minutes. Seek medical attention immediately.

Skin Contact:

Remove clothing that has contacted product. Wash exposed area immediately with running water. Calcium containing gel (KY jelly and 10% Calcium Gluconic Acid) may be applied to the area.


- Inhalation:** Respiratory Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Ingestion:** May be harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- Carcinogenicity:** May cause mottled teeth and fluorosis on bones with repeated exposure.

Section 3 - Composition, Information on Ingredients

Ingredient	CAS #	% By Weight *
Silver Fluoride	7775-41-9	20 – 50 %
Ammonium Fluoride	12125-01-8	> 5%
Ammonium Hydroxide	1336-21-6	> 5%
FD&C Blue #1	3844-45-9	< 1%
Deionized water	7732-18-5	≤ 75%

*The exact concentration is being withheld as a trade secret.




Silver Fluoride: **Signal word:** **Danger**

Danger Symbols: GHS05 

Hazard Statements: H314, H318

Precautionary Statements: P260, P264, P280, P301+330+331, P303+361+353, P304+340, P305+351+338, P310, P363


Ammonium Hydroxide: **Signal word:** **Danger**

Danger symbols: GHS05  GHS07  GHS09 

Hazard statements: H314, H335, H400, H411

Precautionary statements: P261, P264, P271, P273, P280, P301+330+331, P303+361+353, P304+341+310, P304+340+310, P305+351+338, P310, P363, P391, P403+233, P405, P501

Ammonium Fluoride: **Signal word:** **Danger**

Danger symbols: GHS06 

Hazard Statements: H301+311+331

Precautionary Statements: P261, P264, P270, P271, P280, P301+310, P280, P302+352, P304+340, P311

No known hazards exist for other ingredients.



Section 4 - First Aid Measures

If medical advice is needed, have a product container or label on hand.

The following first aid recommendations assume that appropriate personal hygiene and industrial hygiene practices are followed.

General advice: Do not leave the victim unattended.

Eye Contact: Flush eyes with large amounts of water. Get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention if needed. Wash contaminated clothing and clean shoes before reuse. Calcium containing gel (KY jelly and 10% Calcium Gluconic Acid) may be applied to the area.

Inhalation: If signs/symptoms develop, get medical attention. Move victims to fresh air, loosen tight clothing, provide oxygen if having difficulty breathing.

Ingestion: Do not induce vomiting, give victim 100-200 ml (3.4 – 6.8 fluid ounces) of milk, water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Physician Notes: Treat symptomatically.

Section 5 - Fire Fighting Measures

Flash Point (°F/°C)	Flammable Limits (vol%)	Auto-Ignition Temperature (vol%)
N/A	N/A	N/A

Extinguishing Media:

This material is not flammable. Suitable extinguishing material for the surrounding fire should be used. Small fire, use powder, carbon dioxide, or water shower. Large fire, use water shower, water mist or foam extinguisher. May produce irritating, corrosive, or toxic fumes.

Special Fire Fighting Procedures:

Contact with reactive metals may produce flammable hydrogen gas. Firefighters should use protective masks for acidic gases.



Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unprotected and untrained personnel from hazard areas. The spill should be cleaned up by qualified personnel. Cover, but do not seal for 48 hours. Recover any material possible into a closed container. Wear protective gloves, mask, boots, goggles, and other materials for splash prevention.

Environmental Precautions:

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a metal, LDPE or HDPE container approved for use in transportation by appropriate authorities. If other material, the container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene.

Clean-up methods:

Observe precautions from other sections. Determine if spill qualifies for local, state, or federal reporting.

Section 7 - Handling and Storage

Handling:

Avoid breathing vapors, mists, or spray. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Avoid eye and skin contact. Wash hands after handling and before eating.

Storage:

Light sensitive liquid. Store at controlled room temperature $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in a well-ventilated area away from extreme temperatures, sparks, and flames. Keep in closed, original containers when not in use. Prolonged exposure to light or evaporation will cause precipitation.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use with appropriate local exhaust ventilation, or in a well-ventilated area.

Personal Protective Equipment (PPE)

Eye/Face/Body Protection: Avoid eye contact. The following eye protection is required: Safety Glasses/Face Shield.

Skin Protection: Avoid prolonged or repeated skin contact. Rubber gloves, apron/smock/scrubs are required.

Respiratory Protection: Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid breathing vapors, mists, or spray.



Prevention of Swallowing: Do not ingest. Wash hands thoroughly after handling and before eating.

Exposure Guidelines

Occupational Safety & Health Administration (OSHA) exposure standards for Silver Diamine Fluoride are:

OSHA exposure standards for the following materials are as follows:

Chemical Name	CAS-No	OSHA PEL
Silver Fluoride	7775-41-9	0.01 mg/m ³ 2.5 mg/m ³
Ammonium Fluoride	12125-01-8	TWA - 2.5 mg/m ³
Ammonium Hydroxide	1336-21-6	TWA - 25 ppm 18 mg/m ³

Section 9 - Physical and Chemical Properties

Appearance/physical form	Odor	Solubility in water	pH	Specific Gravity
Blue, transparent Liquid	Ammonia	Water based	10 – 10.5	1.135 – 1.375

Lower/Upper Explosive Limits	Melting Point	Flash Point	Boiling Point
Not Determined	N/A	Nonflammable	101--103°C

Section 10 - Stability and Reactivity

Stability: Stable in a sealed, opaque, corrosion resistant container.

Conditions to avoid: Extreme temperatures.

Materials to avoid: Acids, Metals, Glass. Causes erosion of glass and metals.

Hazardous Polymerization: Hazardous polymerization will not occur.
Electric or static electric discharge will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
silicone tetrafluoride	with contact to glass or silica
Hydrogen gas	with contact to metals
Hydrogen Fluoride	with heating



Section 11 - Toxicological Information

Hazardous Ingredients: Silver Diamine Fluoride
ORL LD50 520 mg/kg
SCU LD50 380 mg/kg

Section 12 - Ecological Information

Ecotoxicity: Not Determined
Chemical Fate: Not Determined
Physical: No information available
Other: No information available.
Mobility: Readily absorbed into air, water, and soil
Persistence and degradability: No data
Bio accumulative potential: No bioaccumulation data

Section 13 - Disposal Considerations

Waste Disposal Method: Follow local, regional, state, and national guidelines.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

Precautions: Avoid direct sunlight, avoid damage to container that can result in fluid leakage.
The goods are regulated for transport by IATA and have limited quantity exceptions and exemptions.

Commercial packages of Advantage Arrest Silver Diamine Fluoride 38% are excepted from labeling and packaging requirements under 49 CFR 173.154 and 49 CFR 173.203 respectively.

	US DOT
Shipping Name:	Aqueous Silver Diamine Fluoride 38%
Hazard Class:	8
UN Number:	3267, Corrosive Liquid, basic, organic, n.o.s. (Silver Diamine Fluoride 38%)
Packing Group:	PGIII

Section 15 - Regulatory Information

Classification: Corrosive to metal 1, Skin Corrosive 1B, Eye Damage 1, STOT RE 1

TSCA: N/A

SARA Codes: 34445-07-3

Section 16 - Other Information

Labeling According to EC Directives – 1272/2008 (CLP) and 1999/45/EC
(Items in parenthesis relate to 1999/45/EC)

European Community:



EUH401 – To avoid risks to human health and the environment, comply with the instructions for use.

Danger Symbols:

GHS05 - Corrosives



GHS06 – Danger/Toxic



GHS07 – Warning/Irritant



GHS08 – Health Hazard (Carcinogen)



GHS09 – Environment (Aquatic Toxicity)



Hazard Statements:

H214 – Causes severe skin burns and eye damage.

H227 – Combustible liquid.

H290 – May be corrosive to metals.

H301 – Toxic if swallowed.

H302 – Harmful if swallowed.

H305 – May be harmful if swallowed and enters airways.

H311 – Toxic in contact with skin.

H314 – Causes severe skin burns and eye damage.

H315 – Causes skin irritation.

H317 – May cause an allergic skin reaction.

H318 – Causes severe eye damage.

H319 – Causes serious eye irritation.



- H335** – May cause respiratory irritation.
- H336** – May cause drowsiness or dizziness.
- H351** – Suspected of causing cancer.
- H372** – Causes damage to organs (bone, teeth) through prolonged or repeated exposure.
- H400** – Very toxic to aquatic life.
- H411** – Toxic to aquatic life with long-lasting effects.

Precautionary Statements:

- P102** – Keep out of reach of children.
- P201** – Obtain special instructions before use.
- P202** – Do not handle until all safety precautions have been read and understood.
- P210** – Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
- P260** – Do not breathe dust/fumes/gas/mist/vapors/spray.
- P261** – Avoid breathing dust/fumes/gas/mist/vapors/spray.
- P264** – Wash hands after use, rinse oral cavity and expectorate fluid.
- P270** – Do not eat, drink, or smoke while using this product.
- P271** – Use only outdoors or in a well-ventilated area.
- P272** – Contaminated work clothing should not be allowed out of the workplace.
- P273** – Avoid release to the environment.
- P280** – Wear protective gloves/protective clothing/eye protection/face protection.
- P308+313** – If exposed or concerned get medical advice/attention.
- P330** – Rinse mouth.
- P333** – If skin irritation or a rash occurs.
- P321** – Specific treatment (see label).
- P362** – Take off contaminated clothing.
- P363** – Wash contaminated clothing before reuse.
- P301+P312** – IF SWALLOWED: Call a POISON CENTER or a medical professional if you feel unwell.
- P302+352** – IF ON SKIN: Wash with plenty of water.
- P303+361** – If on skin or hair, remove contaminated clothing, rinse with water/shower.
- P304+340** – IF INHALED: Remove person to fresh air and comfortable for breathing. Seek medical attention if you feel unwell.
- P332+P313** – If skin irritation occurs: Get medical advice/attention.
- P337+313** – If eye irritation persists get medical advice/attention.
- P305+P351+P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.



- P337+P313** – If eye irritation persists get medical advice/attention.
- P309+311+314** – If exposed and you feel unwell, call poison control, and seek medical attention immediately.
- P309+314 (S45)** – If exposed, or you feel unwell, seek medical advice/attention.
- P361+364** – Take off immediately all contaminated clothing and wash it before reuse.
- P403+233** – Store in a well-ventilated place. Keep container tightly closed.
- P370+378** – In case of fire, use...to extinguish.
- P405** – Store locked up.
- P406** – Store in a corrosive resistant/...container with a resistant liner.
- P501** – Dispose of contents/container in accordance with local/state/national/international regulation.

	Health Hazard	Flammability	Reactivity
NFPA:	1	0	1
HMIS	1	0	1

MSDS Creation Date: 04/07/2015

Revision, Date: 07, 06/12/2023

Disclaimer:

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