

# SAFETY DATA SHEET

Cat# BN00417 125 ml Warthin-Starry Stain Kit

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Warthin-Starry Stain Kit  
**PRODUCT CODES:** Cat# BN00417  
**MANUFACTURER:** Assay Genie (brand of Reagent Genie Ltd.)  
**ADDRESS:** G1 The Steelworks, Foley Street, Dublin 1  
**EMERGENCY PHONE:** +353 1 8879802

## SECTION 2: HAZARDS IDENTIFICATION

Component	Description	Volume	Safety Information
SpiroPrep	Liquid	125 ml	No hazards
Gelatin (4%), Acidulated	Liquid	2 x 65 ml	No hazards
Silver Nitrate Solution (0.5%), Acidulated	Liquid	125 ml	No hazards
Hydroquinone Solution (0.1%), Acidulated	Liquid	2 x 30 ml	No hazards
Silver Nitrate Solution (2%), Acidulated	Contains Silver Nitrate	30 ml	See below

### Silver Nitrate:

#### Emergency Overview

**Target Organs:** Blood, Central nervous system

**GHS Classification:** Oxidizing liquids (Category 1)  
Acute toxicity, Oral (Category 4)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity – single exposure (Category 3)

**GHS Label elements, including precautionary statements**

**Pictogram:**



**Signal word:** Warning  
**Hazard statement(s):** H272 May intensify fire; oxidizer.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

**Precautionary statement(s):** P220 Keep/store away from clothing/combustible materials.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.

#### HMIS Classification

**Health hazard:** 1

**Flammability:** 0

**Physical hazards:** 1

#### NFPA Rating

**Health Hazard:** 1

**Fire:** 0

**Reactivity Hazard:** 1

**Special Hazard:** OX

#### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Harmful if swallowed.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula
Silver Nitrate	7761-88-8	231-554-3	84.99	NNaO <sub>3</sub>

## SECTION 4: FIRST AID MEASURES

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

**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 for at least 15 minutes 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.

## SECTION 5: FIRE-FIGHTING MEASURES

**Condition of flammability:** Not flammable or combustible.

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous decomposition products formed under fire conditions— see section 10.

**Further information:** Use water spray to cool unopened containers.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

## SECTION 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. Normal measures for preventive fire protection.

### Conditions for safe storage

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

Recommended storage temperature: MT.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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).

#### Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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## Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Silver Nitrate
Appearance:	Solid
pH:	9 at 100 g/l at 20 °C (68 °F)
Water Solubility:	874 g/l at 20 °C (68 °F)
Other Solubility:	No data available
Boiling Point (°C):	380 °C (716 °F)
Melting Point (°C):	306 °C (583 °F)
Flash Point (°C):	No data available
Ignition Temp. (°C):	No data available
Density:	2.261 g/cm <sup>3</sup>

## SECTION 10: STABILITY AND REACTIVITY

Property	Silver Nitrate
Chemical stability:	Stable under recommended storage conditions
Conditions to avoid:	Fusion of mixtures of metal cyanides, including lead thiocyanate, with metal chlorates, perchlorates, nitrates or nitrites causes violent explosion. Addition of one solid component (even as a residue in small amount) to another molten component is also highly dangerous. Heat.
Materials to avoid:	Strong acids, strong reducing agents, powdered metals, organic materials, alkali metals, alkaline earth metals, cyanides, thiocyanates
Hazardous decomposition products:	Nitrogen oxides, sodium oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### Silver Nitrate:

**Acute toxicity:** LD50 Oral – rat – 1,267 mg/kg

LD50 Oral – rabbit – 2,680 mg/kg

LDLo Oral – child – 22.5 mg/kg

LD50 Intravenous – mouse – 175 mg/kg

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** Genotoxicity in vitro – hamster – Fibroblast ☐ Cytogenetic analysis

Genotoxicity in vitro – hamster – Embryo ☐ host-mediated assay

Genotoxicity in vitro – human – HeLa cell ☐ unscheduled DNA synthesis

Genotoxicity in vivo – mouse – Oral ☐ Micronucleus test

Genotoxicity in vivo – mouse – Oral ☐ Cytogenetic analysis

Genotoxicity in vivo – mouse – Oral ☐ Sperm

**Carcinogenicity:** Carcinogenicity – rat – Oral ☐ Tumorigenic: Equivocal tumorigenic agent by RTECs criteria. Liver: Tumors. Skin and Appendages: Other: Tumors. Tumorigenic Effects: Testicular tumors.

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:** Reproductive toxicity – mouse – male – Oral ☐ Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

**Specific target organ toxicity - single exposure (GHS):** no data available

**Specific target organ toxicity - repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

**Potential health effects**

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**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Harmful if swallowed

**Signs and Symptoms of Exposure:** Absorption into the body leads to the formation of the methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

**Additional information:** RTECS: no data available

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### SECTION 12: ECOLOGICAL INFORMATION

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#### **Silver Nitrate:**

**Persistence and degradability:** no data available

**Toxicity:** Toxicity to fish: static test LC50 – Gambusia affinis (Mosquito fish) – 6,650 mg/l – 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (Water flea) – 6,000 mg/l – 24 h

**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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### SECTION 13: DISPOSAL CONSIDERATIONS

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**Product:** Observe all federal, state, and local environmental regulations.

**Contaminated packaging:** Dispose of as unused product.

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### SECTION 14: TRANSPORT INFORMATION

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#### **Silver Nitrate:**

**DOT (US):** UN-number: 1498, Class: 5.1, Packing group: III; Proper shipping name: Silver Nitrate; Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** UN-number: 1498, Class: 5.1, Packing group: III; EMS-No: F-A, S-Q; Proper shipping name: SILVER NITRATE; Marine pollutant: No

**IATA:** UN-number: 1498, Class: 5.1, Packing group: III; Proper shipping name: Silver Nitrate

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### SECTION 15: REGULATORY INFORMATION

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**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:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.

#### **SARA 311/312 Hazards:**

Silver Nitrate: Reactivity Hazard, Acute Health Hazard

**Massachusetts Right To Know Components:** Silver Nitrate, CAS-No. 7761-88-8; Revision Date: 1993-04-24

#### **Pennsylvania Right To Know Components:**

Silver Nitrate, CAS-No. 7761-88-8; Revision Date: 1993-04-24

#### **New Jersey Right To Know Components:**

Silver Nitrate, CAS-No. 7761-88-8; Revision Date: 1993-04-24

**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

#### **EU regulations**

Component	Risk Phrases	Safety Phrases
Silver Nitrate	R8, R22, R36/37/38	S17, S26

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### SECTION 16: OTHER INFORMATION:

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#### **DISCLAIMER:**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Assay Genie shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.