

Safety Data Sheet Warthin-Starry Stain Kit (OSHA)

SECTION 1: Identification

1.1 GHS Product identifier

Product name Warthin-Starry Stain Kit (OSHA)

Product number KT036

Brand Warthin-Starry Stain Kit

1.2 Other means of identification

Kit Component	Volume	Storage
1. SpiroPrep	125 ml	15-30°C
2. Gelatin (4%), Acidulated	125 ml	2-8°C
3. Silver Nitrate Solution (0.5%), Acidulated	125 ml	2-8°C
4. Hydroquinone Solution (0.1%), Acidulated	2x30 ml	2-8°C
5. Silver Nitrate Solution (2%), Acidulated	30 ml	2-8°C

1.3 Recommended use of the chemical and restrictions on use

In Vitro Diagnostic Use

1.4 Supplier's details

Name Diagnostic Biosystems Address 6616 Owens Drive

Pleasanton CA 94588

USA

Telephone (888) 896-3350

email customersupport@dbiosys.com

1.5 Emergency phone number

(925) 484-3350 (9AM-6PM, Monday - Friday, Pacific Standard Time)

SECTION 2: Hazard identification

General hazard statement

For Professional Users Only

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

Not a hazardous substance or mixture.

2.2 GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Other hazards which do not result in classification

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Component 1

1. Zinc chloride

Concentration <= 0.5 % (weight)

Other names / synonyms Zinc chloride (ZnCl2); Zinci chloridum

EC no. 231-592-0 CAS no. 7646-85-7 Index no. 030-003-00-2

- Acute toxicity, oral (chapter 3.1), Cat. 4

- Skin corrosion/irritation (chapter 3.2), Cat. 1B

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

SCLs/M-factors/ATEs STOT SE 3; H335: C ≥ 5 %

Component 2

1. Gelatin

Concentration <= 5 % (weight)

Other names / synonyms Gelatina; Gelatins: A complex combination of proteins obtained by

hydrolysis of collagen by boiling skin, tendons, ligaments, bones, etc.

CAS no. 9000-70-8

2. Acetic acid

Concentration <= 0.1 % (volume)

Other names / synonyms acetic acid ... %; ACETIC ACID; ACETIC ACID, GLACIAL; ACETICACID;

Acidum aceticum; ETHANOIC ACID; ETHYLIC ACID; GLACIAL ACETIC

ACID; METHANECARBOXYLIC ACID; UN 2789; UN 2790; VINEGAR ACID

EC no. 200-580-7 CAS no. 64-19-7 Index no. 607-002-00-6

Flammable liquids (chapter 2.6), Cat. 3
Skin corrosion/irritation (chapter 3.2), Cat. 1A

H226 Flammable liquid and vapor

H314 Causes severe skin burns and eye damage

SCLs/M-factors/ATEs Skin Corr. 1A; H314: C ≥ 90 %

Skin Corr. 1B; H314: 25 % \leq C < 90 % Skin Irrit. 2; H315: 10 % \leq C < 25 % Eye Irrit. 2; H319: 10 % \leq C < 25 %

Component 3
1. Silver nitrate

Concentration <= 0.5 % (weight)

Other names / synonyms Argenti nitras; Nitric acid silver(1++) salt;

EC no. 231-853-9 CAS no. 7761-88-8 Index no. 047-001-00-2

- Oxidizing solids (chapter 2.14), Cat. 2

- Skin corrosion/irritation (chapter 3.2), Cat. 1B

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H272 May intensify fire; oxidizer

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

2. Acetic acid

Concentration <= 0.02 % (volume)

Other names / synonyms acetic acid ... %; ACETIC ACID; ACETIC ACID, GLACIAL; ACETICACID;

Acidum aceticum; ETHANOIC ACID; ETHYLIC ACID; GLACIAL ACETIC

ACID; METHANECARBOXYLIC ACID; UN 2789; UN 2790; VINEGAR ACID

EC no. 200-580-7 CAS no. 64-19-7 Index no. 607-002-00-6

- Flammable liquids (chapter 2.6), Cat. 3

- Skin corrosion/irritation (chapter 3.2), Cat. 1A

H226 Flammable liquid and vapor

H314 Causes severe skin burns and eye damage

SCLs/M-factors/ATEs Skin Corr. 1A; H314: C ≥ 90 %

Skin Corr. 1B; H314: $25 \% \le C < 90 \%$ Skin Irrit. 2; H315: $10 \% \le C < 25 \%$ Eye Irrit. 2; H319: $10 \% \le C < 25 \%$

Component 4
1. Hydroquinone

Concentration <= 0.1 % (weight)

Other names / synonyms 1,4 -Dihydroxybenzene (Hydroquinone), with the exception of entry 14 in

Annex III; 1,4-Benzenediol; 1,4-DIHYDROXYBENZENE; AIDA; ALPHA-

HYDROQUINONE; ARCTUVIN; BENZENE, P-DIHYDROXY-;

BENZOHYDROQUINONE; BENZOQUINOL; BETA-QUINOL; BLACK AND WHITE BLEACHING CREAM; DIHYDROXYBENZENE; ELDOPAQUE; ELDOQUIN; HYDROQUINOL; HYDROQUINOLE; NCI-C55834; P-BENZENEDIOL; P-DIHYDROXYBENZENE; P-DIOXOBENZENE; P-HYDROQUINONE; P-HYDROXYPHENOL; QUINNONE; QUINOL; TECQUINOL; TENOX HQ; TEQUINOL; UN 2662; USAF EK-356

EC no. 204-617-8 CAS no. 123-31-9 Index no. 604-005-00-4

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

- Carcinogenicity (chapter 3.6), Cat. 2

- Germ cell mutagenicity (chapter 3.5), Cat. 2 - Acute toxicity, oral (chapter 3.1), Cat. 4

- Eye damage/irritation (chapter 3.3), Cat. 1 - Sensitization - skin (chapter 3.4), Cat. 1

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

H302 Harmful if swallowed

H317 May cause an allergic skin reaction
H318 Causes serious eye damage

H341 Suspected of causing genetic defects [route]

H351 Suspected of causing cancer [route]

H400 Very toxic to aquatic life

SCLs/M-factors/ATEs M=10

2. Acetic acid

Concentration <= 0.1 % (volume)

Other names / synonyms acetic acid ... %; ACETIC ACID; ACETIC ACID, GLACIAL; ACETICACID;

Acidum aceticum; ETHANOIC ACID; ETHYLIC ACID; GLACIAL ACETIC

ACID; METHANECARBOXYLIC ACID; UN 2789; UN 2790; VINEGAR ACID

EC no. 200-580-7 CAS no. 64-19-7 Index no. 607-002-00-6

- Flammable liquids (chapter 2.6), Cat. 3

- Skin corrosion/irritation (chapter 3.2), Cat. 1A

H226 Flammable liquid and vapor

H314 Causes severe skin burns and eye damage

SCLs/M-factors/ATEs Skin Corr. 1A; H314: C ≥ 90 %

Skin Corr. 1B; H314: $25 \% \le C < 90 \%$ Skin Irrit. 2; H315: $10 \% \le C < 25 \%$ Eye Irrit. 2; H319: $10 \% \le C < 25 \%$

Component 5
1. Silver nitrate

Concentration <= 2 % (weight)

Other names / synonyms Argenti nitras; Nitric acid silver(1++) salt;

EC no. 231-853-9 CAS no. 7761-88-8 Index no. 047-001-00-2

- Oxidizing solids (chapter 2.14), Cat. 2

- Skin corrosion/irritation (chapter 3.2), Cat. 1B

- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H272 May intensify fire; oxidizer

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

2. Acetic acid

Concentration <= 0.02 % (volume)

Other names / synonyms acetic acid ... %; ACETIC ACID; ACETIC ACID, GLACIAL; ACETICACID;

Acidum aceticum; ETHANOIC ACID; ETHYLIC ACID; GLACIAL ACETIC

ACID; METHANECARBOXYLIC ACID; UN 2789; UN 2790; VINEGAR ACID

EC no. 200-580-7 CAS no. 64-19-7 Index no. 607-002-00-6

- Flammable liquids (chapter 2.6), Cat. 3

- Skin corrosion/irritation (chapter 3.2), Cat. 1A

H226 Flammable liquid and vapor

H314 Causes severe skin burns and eye damage

SCLs/M-factors/ATEs Skin Corr. 1A; H314: C ≥ 90 %

Skin Corr. 1B; H314: $25 \% \le C < 90 \%$ Skin Irrit. 2; H315: $10 \% \le C < 25 \%$ Eye Irrit. 2; H319: $10 \% \le C < 25 \%$

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice 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.

Do NOT induce vomiting. Never give anything by mouth to an unconscious

person. Rinse mouth with water. Consult a physician.

In case of skin contact Rinse with plenty of water. Get medical attention if irritation develops and

persists.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes. Get medical

attention if symptoms occur.

If swallowed Call a poison center or doctor if you feel unwell. If vomiting occurs naturally,

have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything

by mouth to an unconscious person.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset,

nausea, vomiting and diarrhea.

Personal protective equipment for first-aid responders

Ensure adequate ventilation. Use personal protective equipment. For

personal protection see section 8.

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical

No data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 123-31-9

Hydroquinone

ACGIH: 1 mg/m3 PEL inhalation; Cal/OSHA: 2 mg/m3 PEL inhalation; NIOSH: (C) 2 mg/m3 [15-min] REL inhalation; OSHA: 2 mg/m3 PEL inhalation

CAS: 64-19-7 (EC: 200-580-7)

Acetic acid

ACGIH (USA): 15 ppm STEL inhalation; 10 ppm, (ST) 15 ppm TLV® inhalation; 10 ppm TWA inhalation; Cal/OSHA (USA): 40 ppm C inhalation; 10 ppm, (ST) 15 ppm, (C) 40 ppm PEL inhalation; 10 ppm, 25 mg/m3 PEL inhalation; 15 ppm, 37 mg/m3 STEL inhalation; NIOSH (USA): 10 ppm, (ST) 15 ppm REL inhalation; 15 ppm, 37 mg/m3 ST inhalation; 10 ppm, 25 mg/m3 TWA inhalation; OSHA (USA): 25 mg/m3 PEL inhalation; 10 ppm PEL inhalation; 10 ppm, 25 mg/m3 TWA inhalation

CAS: 7646-85-7

Zinc chloride

Cal/OSHA: 1 mg/m3, (ST) 2 mg/m3 PEL inhalation; NIOSH: 1 mg/m3, (ST) 2 mg/m3 REL inhalation; OSHA: 1 mg/m3 PEL inhalation

8.2 Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms







Eye/face protection

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

Skin 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.

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.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards

No data available

Control banding approach

No data available.

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties and safety characteristics

Physical state Liquid **Appearance** Clear Color Colorless Odor Odorless Odor threshold No data available. No data available Hq No data available. Melting point/freezing point Boiling point or initial boiling point and boiling range No data available. Flash point No data available. Evaporation rate No data available. Flammability No data available. Lower and upper explosion limit/flammability limit No data available. Vapor pressure No data available. Relative vapor density No data available. Density and/or relative density No data available. Solubility No data available. Partition coefficient n-octanol/water (log value) No data available. Auto-ignition temperature No data available. Decomposition temperature No data available. Kinematic viscosity No data available. Explosive properties No data available. Oxidizing properties No data available.

Particle characteristics

No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal use conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

None under normal use conditions.

10.4 Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

10.5 Incompatible materials

Acetic acid: Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid

Hydroquinone: Strong bases, Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

Acetic acid: Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Hydroquinone LD50 Oral - Rat - 367.3 mg/kg

Skin corrosion/irritation

Acetic acid

LD50 Skin - Rat - 1,112 mg/kg

Hydroquinone

LD50 Skin - Rabbit - > 2,000 mg/kg

Hydroquinone

OECD Test Guideline 429 - Mouse

Result: May cause sensitisation by skin contact.

Serious eye damage/irritation

No data available

Respiratory or skin sensitization

Acetic acid

LC50 Inhalation - Mouse - 5620 ppm - 1 h

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Conjunctive irritation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Blood: Other changes.

Acetic acid

LC50 Inhalation - Rat - 11.4 mg/l - 4 h

Hydroquinone

OECD Test Guideline 429 - Mouse

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Hydroquinone

- Mouse

Result: Laboratory experiments have shown mutagenic effects. Mutagenicity (micronucleus test). Result: positive

Carcinogenicity

Result: 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.

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

Based on available data, classification data are not met

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

No data available.

SECTION 12: Ecological information

Toxicity

Acetic acid

LC50 - Oncorhynchus mykiss (rainbow trout) - >1,000 mg/l - 96 h

Citation: (OECD Test Guideline 203)

Acetic acid

EC50 - Daphnia magna (water flea) - >300.82 mg/l - 48 h

Citation: (OECD Test Guideline 202)

Hydroquinone

LC50 - Oncorhynchus mykiss (rainbow trout) - 0.04 - 0.1 mg/l - 96 h

Hydroquinone

EC50 - Daphnia magna (water flea) - 0.13 mg/l - 48 h

Hydroquinone

EC50 - Pseudokirchneriella subcapitata (green algae) - 0.335 mg/l - 72 h

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Offer surplus and non-recyclable solutions to a licensed disposal company.

Packaging disposal

Dispose of as unused product.

Waste treatment

No data available

Sewage disposal

Do not let product enter drains

Other disposal recommendations

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

SECTION 14: Transport information

DOT (US)

UN Number: UN1840

Class: 8

Packing Group: III

Proper Shipping Name: Zinc chloride, solution

Reportable quantity (RQ):

Marine pollutant:

Poison inhalation hazard:

IMDG

UN Number: UN1840

Class: 8

Packing Group: III EMS Number:

Proper Shipping Name: Zinc chloride, solution

IATA

UN Number: UN1840

Class: 8

Packing Group: III

Proper Shipping Name: Zinc chloride, solution

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

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.

Canadian Domestic Substances List (DSL)

Chemical name: Zinc chloride (ZnCl2)

CAS: 7646-85-7

Chemical name: Gelatins

CAS: 9000-70-8

Chemical name: Acetic acid

CAS: 64-19-7

Chemical name: Nitric acid silver(1++) salt

CAS: 7761-88-8

Chemical name: 1,4-Benzenediol

CAS: 123-31-9

Massachusetts Right To Know Components

Chemical name: Zinc chloride CAS number: 7646-85-7

Acetic acid

CAS number: 64-19-7

Chemical name: Silver nitrate CAS number: 7761-88-8

Chemical name: Hydroquinone

CAS number: 123-31-9

New Jersey Right To Know Components

Common name: ZINC CHLORIDE

CAS number: 7646-85-7

Acetic acid

CAS number: 64-19-7

Common name: SILVER NITRATE

CAS number: 7761-88-8

Common name: HYDROQUINONE

CAS number: 123-31-9

Pennsylvania Right To Know Components

Chemical name: Zinc chloride CAS number: 7646-85-7

Acetic acid

CAS number: 64-19-7

Chemical name: Nitric acid, silver(1+) salt

CAS number: 7761-88-8

Chemical name: Hydroquinone

CAS number: 123-31-9

SARA 302 Components

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

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 Components

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

15.2 Chemical Safety Assessment

The supplier of this product has not conducted any Chemical Safety Assessment

HMIS Rating

Warthin-Starry Stain Kit (OSHA)

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	В

NFPA Rating



SECTION 16: Other information

SDS-0057, Rev. C

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Diagnostic BioSystems be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Diagnostic BioSystems has been advised of the possibility of such damages.