

Safety Data Sheet
Periodic Acid Schiff (PAS) Stain Kit (EU)



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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Periodic Acid Schiff (PAS) Stain Kit (EU)
Product number KT027
Brand Periodic Acid Schiff (PAS) Stain Kit

Other means of identification

Kit Component	Volume	Storage
1. Periodic Acid Solution	250 ml	2-8° C
2. Schiff's Solution	250 ml	2-8° C
3. Hematoxylin, Mayer's	125 ml	18-25°C
4. Bluing Reagent	125ml	18-25°C
5. Light Green Solution	125ml	18-25°C

1.2 Relevant identified uses of the substance or mixture and uses advised against
In Vitro Diagnostic Use

1.3 Details of the supplier of the safety data sheet

Name Diagnostic Biosystems
Address 6616 Owens Drive
Pleasanton CA 94588
USA

Telephone (888) 896-3350
email customersupport@dbiosys.com

1.4 Emergency telephone number

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

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SECTION 2: Hazards identification

General hazard statement

For Professional Users Only

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333
- Carcinogenicity (chapter 3.6), Cat. 1B, H350
- Serious eye damage/eye irritation (chapter 3.3), Cat. 1, H318
- Skin corrosion/irritation (chapter 3.2), Cat. 2, H315

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms



1. Exclamation mark; 2. Health hazard; 3. Corrosion

Signal word

Danger

Hazard statements

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H332	Harmful if inhaled
H350	May cause cancer

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to a licensed disposal company.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Component 1 (Periodic Acid Solution).

1. Periodic acid

Concentration	< 1 % (volume)
Other names / synonyms	Periodic acid (H5IO6)
CAS no.	10450-60-9

Component 2 (Schiff's Solution).

1. Sodium metabisulfite

Concentration	<= 2 % (weight)
Other names / synonyms	Disodium disulphite; Disulfurous acid, sodium salt (1:2); Sodium disulfite; sodium metabisulphite; Sodium pyrosulfite
EC no.	231-673-0
CAS no.	7681-57-4
Index no.	016-063-00-2

- Acute toxicity, oral (C.4.1), Cat. 4
- Eye damage/irritation (C.4.5), Cat. 1

H302	Harmful if swallowed
H318	Causes serious eye damage

2. Hydrochloric acid

Concentration	<= 1 % (volume)
Other names / synonyms	Acidum hydrochloricum; hydrogen chloride; HYDROGEN CHLORIDE (gas)
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

- Skin corrosion/irritation (C.4.4), Cat. 1
- Eye damage/irritation (C.4.5), Cat. 1
- Acute toxicity, inhalation (C.4.3), Cat. 3

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
SCLs/M-factors/ATEs	Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 %

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3. PARAROSANILINE HYDROCHLORIDE

Concentration <= 0.5 % (weight)

Other names / synonyms Benzenamine,
4-[(4-aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene)methyl]-,
monohydrochloride; C.I. Basic Red 9 monohydrochloride;

EC no. 209-321-2

CAS no. 569-61-9

Index no. 611-031-00-X

- Carcinogenicity (C.4.9), Cat. 1B

H350 May cause cancer

4. Aluminum sulfate

Concentration <= 5 % (weight)

Other names / synonyms Aluminii sulfas; Aluminium sulfate; Aluminium sulphate; Sulfuric acid,
aluminum salt (3:2)

CAS no. 10043-01-3

Component 3 (Hematoxylin, Mayer's)

1. Acetic acid

Concentration <= 2 % (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 (C.4.19), Cat. 3

- Skin corrosion/irritation (C.4.4), 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 % ≤ C < 90 %

Skin Irrit. 2; H315: 10 % ≤ C < 25 %

Eye Irrit. 2; H319: 10 % ≤ C < 25 %

2. HEMATOXYLIN

Concentration <= 1 % (weight)

Other names / synonyms Benz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol, 7,11b-dihydro-, cis-(++)-;

CAS no. 517-28-2

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Component 4 (Bluing Reagent).

1. Sodium hydroxide

Concentration	<= 2 % (weight)
Other names / synonyms	Caustic soda; Natrii hydroxidum; Sodium hydroxide ; Sodium hydroxide (Na(OH));
EC no.	215-185-5
CAS no.	1310-73-2
Index no.	011-002-00-6

- Skin corrosion/irritation (C.4.4), Cat. 1A

H314	Causes severe skin burns and eye damage
SCLs/M-factors/ATEs	Skin Corr. 1A; H314: C ≥ 5 % Skin Corr. 1B; H314: 2 % ≤ C < 5 % Skin Irrit. 2; H315: 0,5 % ≤ C < 2 % Eye Irrit. 2; H319: 0,5 % ≤ C < 2 %

Component 5 (Light Green Solution)

1. Acetic acid

Concentration	<= 0.05 % (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 (C.4.19), Cat. 3

- Skin corrosion/irritation (C.4.4), 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 % ≤ C < 90 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration.

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Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Following skin contact

Rinse with plenty of water. Get medical attention if irritation develops and persists.

Following eye contact

Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Following ingestion

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.

Self-protection of the first aider

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

4.2 Most important symptoms and effects, both 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 any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas

5.3 Advice for firefighters

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

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

6.3 Methods and material 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).

6.4 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.

7.3 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: 1310-73-2

Sodium hydroxide

ACGIH (USA): (C) 2 mg/m³ TLV® inhalation; Cal/OSHA (USA): (C) 2 mg/m³ PEL inhalation; NIOSH (USA): (C) 2 mg/m³ REL inhalation; OSHA (USA): 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: 7647-01-0

Hydrochloric acid

ACGIH: 2 ppm (C) TLV® inhalation; NIOSH: 5 ppm, 7 mg/m³ REL-C inhalation; OSHA: 5 ppm, 7 mg/m³ PEL-C inhalation

CAS: 7681-57-4 (EC: 231-673-0)

Sodium metabisulfite

ACGIH: 5 mg/m³ (STEL) STEL inhalation; NIOSH: 5 mg/m³ REL-TWA inhalation

8.2 Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

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Pictograms



Eye and 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

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Colour	Not Applicable
Odour	Odorless
Odour threshold	No data available.
pH	Not Applicable
Melting point/freezing point	No data available.
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.

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Kinematic viscosity
Explosive properties
Oxidizing properties

No data available.
No data available.
No data available.

Particle characteristics

No data available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

No data available.

9.2.2 Other safety characteristics

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

Sodium hydroxide : Caustic soda reacts with all the mineral acids to form the corresponding salts. It also reacts with weak-acid gases, such as hydrogen sulfide, sulfur dioxide, and carbon dioxide. Caustic soda reacts with amphoteric metals (Al, Zn, Sn) and their oxides to form complex anions such as AlO_2^- , ZnO_2^{2-} , SnO_2^{2-} , and H_2 (or H_2O with oxides). All organic acids also react with sodium hydroxide to form soluble salts. Another common reaction of caustic soda is dehydrochlorination.

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

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Sodium hydroxide : Sodium oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

The ATE (gas inhalation) of the mixture is: 70000 ppmV

Acetic acid

LD50 Oral - Rat - 3,310 mg/kg

Sodium metabisulfite

LD50 Oral - Rat - 1,540 mg/kg

Skin corrosion/irritation

Acetic acid

LD50 Skin - Rat - 1,112 mg/kg

Sodium metabisulfite

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

Serious eye damage/irritation

Causes serious eye irritation.

Sodium metabisulfite

- Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitization

Sodium metabisulfite

Result: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals

Germ cell mutagenicity

Based on available data, classification data are not met

Carcinogenicity

May cause cancer

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

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.

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

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 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)

Sodium hydroxide solid or pellets
LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h
Citation: Sigma SDS

Sodium hydroxide solid or pellets
LC50 - Oncorhynchus mykiss (rainbow trout) - 45.4 mg/l - 96 h
Citation: Sigma SDS

Sodium hydroxide solid or pellets
EC50 - Daphnia magna (water flea) - 40.38 mg/l - 48 h
Citation: Sigma SDS

Sodium hydroxide solid or pellets
LC50 - Poecilia reticulata (guppy) - 196 mg/l - 96 h
Citation: Ecotox, 63143 Adema,D.M.M., 1985

Sodium metabisulfite
LC50 - Oncorhynchus mykiss (rainbow trout) - 150 - 220 mg/l - 96 h

Sodium metabisulfite
EC50 - Daphnia magna (water flea) - 89 mg/l - 24 h

Sodium metabisulfite
IC50 - Desmodemus subspicatus (chodat) - 48 mg/l - 72 h

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

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12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment 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

14.1	UN Number	None
14.2	UN Proper Shipping Name	None
14.3	Transport hazard class(es)	None
14.4	Packing group	None
14.5	Environmental hazards	None
14.6	Special precautions for user	None
14.7	Maritime transport in bulk according to IMO instruments	None

SECTION 15: Regulatory information

15.2 Chemical Safety Assessment

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

HMIS Rating

Periodic Acid Schiff (PAS) Stain Kit (EU)	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

NFPA Rating

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SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H315	Causes skin irritation
H318	Causes serious eye damage
H333	May be harmful if inhaled
H350	May cause cancer

SDS-0088, Rev. C

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.