

Material Safety Data Sheet

AccuDiag™ Penicillin ELISA

Section 1: Product and Company Identification

Catalog No: 5127-8
Synonyms: N/A
Intended Use: Laboratory Use

Section 2: Wash Buffer

The Wash Buffer contains no toxic or otherwise hazardous components.

Section 3: Specific Antibody

3.1. Chemical Characterization / Information on Ingredients

Character	<i>aqueous, protein-containing mixture preserved with 0.01 % potassium tetraiodomercurate (K_2HgI_4, resulting complex of KI and HgI_2).</i>
CAS-No. (HgI_2)	7774-29-0
EINECS-No. (HgI_2)	231-873-8
Classification	<i>Very toxic, irritant.</i>

3.2. Hazards Identification

Warnings *Toxic if swallowed. Irritates eyes, respiratory tract and skin. In case of breathing in or skin contact, a sensitisation may be possible. Because of a possible mutagenic effect, an irreversible defect is possible (affected organs are kidneys and CNS). In case of contact with acids, the development of toxic gases is possible.*

3.3. First Aid Measures

Eye Contact	<i>Promptly wash eyes with water for at least 15 minutes. Seek medical advice.</i>
Skin Contact	<i>Flush skin with copious amounts of water and soap.</i>
Ingestion	<i>Wash out mouth with water provided person is conscious. Seek medical advice.</i>
Inhalation	<i>Remove to fresh air. If breathing becomes difficult, seek medical advice.</i>
Changing Clothes	<i>In case of sever contamination.</i>

3.4. Fire-Fighting Measures

Extinguishing Media	<i>Water spray. Use carbon dioxide, dry chemical powder or appropriate foam.</i>
Special Fire Fighting Procedure	<i>Wear self-containing breathing apparatus and special protective clothes.</i>
Unusual Fire Fighting Procedure	<i>N/A.</i>
Thermal decomposition	<i>Emits toxic fumes under fire conditions.</i>

3.5. Accidental Release Measures

Personal Protection	<i>Protective glasses, rubber gloves and protective clothing.</i>
Steps after Spillage	<i>Remove spilled fluid onto an inert material. Ventilate area. Wash area with soap solution. Collect contaminated fluid and material in a special closable container.</i>
Absorbent material	<i>No restriction.</i>
Waste Disposal Method	<i>Consult a specialist for disposal or the spilled substance.</i>

3.6. Handling and Storage

Handling	<i>Wear protective clothing. Avoid contact with eyes, skin and clothes. Open and handle container carefully. Thoroughly washing after use is recommended.</i>
Storage	<i>Store between +2°C and +8°C.</i>

3.7. Exposure Controls / Personal Protection

TLV	<i>No.</i>
Personal Protection	<i>Protective glasses, rubber gloves and clothing. Thoroughly washing after use is recommended.</i>

3.8. Physical and Chemical Properties

Physical State	<i>Liquid</i>	Flash Point	<i>N/A</i>
Color	<i>Red</i>	Ignition Temperature	<i>N/A</i>
Odor	<i>N/A</i>	Explosion Limits	<i>N/A</i>
pH-Value	<i>6.2 – 6.7</i>	Vapor Pressure	<i>N/A</i>
Boiling Point	<i>100°C</i>	Solubility in Water	<i>complete</i>
Melting Point	<i>N/A</i>	Viscosity	<i>N/A</i>

3.9. Stability and Reactivity

Hazardous Decomposition Products	<i>Mercury.</i>
Hazardous Polymerisation	<i>Will not occur</i>

3.10. Toxicological Information

LD ₅₀ Oral (rat)	18 mg/kg	LD ₅₀ Skin (rat)	75 mg/kg
LD ₅₀ Oral (man)	357 mg/mg	LD ₅₀ Inhalation	Not known

3.11. Ecological Information

Water Hazard Class	1 (own specification)
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Section 4: Standards, Sample Diluent

4.1. Chemical Characterization / Information on Ingredients

Character	<i>Product contains 0.02 % (standards) or 0.2 % (sample diluent, 10x concentrate) Thimerosal (Merthiolate, C₉H₉HgNaO₂S)</i>
CAS-No.	54-64-8
EINECS-No.	200-210-4
EC Index No.	080-004-00-7
Classification	<i>Toxic, irritant, possibly mutagenic.</i>

4.2. Hazards Identification

Warnings	<i>Thimerosal may enter the body through the skin, is toxic, alters genetic material, may be irritating to the eyes and causes allergic reactions. Effects of exposure may include numbness of extremities, fetal changes, decreased offspring survival and lung tissue changes.</i>
Routes of entry	<i>Inhalation and skin absorption.</i>
Effects of overexposure	<i>Topical allergic dermatitis has been reported. Thimerosal contains mercury. Mercury poisoning may occur and topical hypersensitivity reactions may be seen. Early signs of mercury poisoning in adults are nervous system effects, including narrowing of the visual field and numbness in the extremities. Exposure of mercury in utero and in children may cause mild to severe mental retardation and mild to severe motor coordination impairment. Based on animal data, may be irritating to the eyes.</i>

4.3. First Aid Measures

Eye Contact	<i>Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Seek medical advice.</i>
Skin Contact	<i>Thimerosal is intended for topical application to the skin. However in case of unintentional exposure, especially of large areas of skin, wash with soap and water. If symptoms develop seek medical advice.</i>
Ingestion	<i>Call a physician or poison control centre. Drink one or two glasses of water and give 1-2 tablespoons syrup of ipecac to induce vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Use of chelating agents such as BAL may be needed to treat ingestion of mercury. Immediately transport to a medical care facility and see a physician.</i>
Inhalation	<i>Remove to fresh air. If breathing becomes difficult, seek medical advice. If not breathing, provide artificial respiration assistance (mouth-to-mouth) and call a physician immediately.</i>
Changing Clothes	<i>In case of sever contamination.</i>

4.4. Fire-Fighting Measures

Extinguishing Media	<i>Water spray. Use carbon dioxide, dry chemical powder or appropriate foam.</i>
Special Fire Fighting Procedure	<i>Wear self-containing breathing apparatus and special protective clothes.</i>
Unusual Fire Fighting Procedure	<i>Thimerosal as pure substance may form dust mixtures in air which could explode in subjected to an ignition source.</i>
Thermal decomposition	<i>Emits toxic mercury fumes when heated to decomposition.</i>

4.5. Accidental Release Measures

Spills	<i>Wear protective equipment, including eye protection, to avoid exposure. Vacuum material with appropriate dust collection filter in place. Be aware or potential of dust explosion when using electrical equipment. If vacuum is not available, lightly mist material and remove by sweeping or wet wiping.</i>
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4.6. Handling and Storage

Handling	<i>Wear protective clothing. Avoid contact with eyes, skin and clothes. Open and handle container carefully. Thoroughly washing after use is recommended.</i>
Storage	<i>Store between +2°C and +8°C.</i>

4.7. Exposure Controls / Personal Protection

Personal Protection	<i>Protective glasses, rubber gloves and clothing. Thoroughly washing after use is recommended.</i>
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4.8. Physical and Chemical Properties

Physical State	<i>Liquid</i>	Flash Point	<i>N/A</i>
Color	<i>farblos</i>	Ignition Temperature	<i>N/A</i>
Odor	<i>N/A</i>	Explosion Limits	<i>N/A</i>
pH-Value	<i>7.0 – 7.5</i>	Vapor Pressure	<i>N/A</i>
Boiling Point	<i>100°C</i>	Solubility in Water	<i>complete</i>
Melting Point	<i>N/A</i>	Viscosity	<i>N/A</i>

4.9. Stability and Reactivity

Stability	<i>Stable at normal temperatures and pressures.</i>
Incompatibility	<i>May react with strong oxidizing agents (e.g. peroxides, permanganates, nitric acid etc.)</i>
Hazardous Decomposition Products	<i>May emit toxic mercury fumes when heated to decomposition.</i>
Hazardous Polymerisation	<i>Will not occur.</i>

4.10. Toxicological Information

Acute exposure:

Oral	<i>Rat, median lethal dose 73 mg/kg, reduced activity, drooping eyelids, weakness.</i>
Skin	<i>No applicable information found.</i>
Inhalation	<i>No applicable information found.</i>
Intravenous	<i>Rat, median lethal dose estimated greater than 45 mg/kg, mortality.</i>
Skin contact	<i>Rabbit, nonirritant.</i>
Eye contact	<i>Rabbit irritant.</i>

Chronic exposure:

Target organ effects	<i>Kidney effects (tubule necrosis), lung effects (tissue changes).</i>
Other effects	<i>Decreased weight gain.</i>
Reproduction	<i>Decreased offspring survival.</i>
Sensitization	<i>No applicable information found.</i>
Mutagenicity	<i>Mutagenic in mammalian cells. Not mutagenic in bacterial cells.</i>

4.11. Ecological Information

Water Hazard Class	<i>1 (own specification)</i>
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Section 5: Conjugate

5.1. Chemical Characterization / Information on Ingredients

Character	<i>aqueous, protein-containing mixture preserved with 0.01 % methylisothiazolone and 0.01 % bromonitrodioxane and 10 mg/l Proclin 300.</i>
CAS-No.	<i>not determined</i>

5.2. Hazards Identification

Warnings	<i>Though complete toxicity information on this conjugate buffer is not available, none of its components are known to be toxic or hazardous at use concentrations. The buffer contains the mercury-free preservatives methylisothiazolone (0.01 %), bromonitrodioxane (0.01 %) and Proclin 300, which can produce adverse health effects in their concentrated forms. For more specific toxicity information on these components, refer to the material safety data sheets available from the manufacturer (Boehringer Mannheim Corporation and Rohm and Haas, respectively).</i>
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5.3. First Aid Measures

Eye Contact	<i>Promptly wash eyes with water or normal saline, lifting the upper and lower lids occasionally, until no evidence of chemical remains (approximately 15 minutes). Seek medical advice.</i>
Skin Contact	<i>Wash thoroughly with water and soap.</i>
Ingestion	<i>Wash out mouth with water provided person is conscious. Drink one cup of water or milk to dilute in the stomach. Seek medical advice.</i>
Inhalation	<i>No special first aid measures necessary; inhalation or aspiration unlikely.</i>

5.4. Fire-Fighting Measures

Flash point	<i>Non-flammable</i>
Extinguishing Media	<i>No restriction.</i>
Special Fire Fighting Procedure	<i>No special procedures are required. As with any fire, wear full protective clothing and self-contained breathing apparatus.</i>
Unusual Fire Fighting Procedure	<i>None</i>

5.5. Accidental Release Measures

Personal Protection	<i>Protective glasses, rubber gloves and special protective clothing.</i>
Steps after Spillage	<i>Absorb spill with an absorbent cloth, then wash the area thoroughly with soap and water.</i>
Waste Disposal Method	<i>Observe all federal, state and local laws when considering waste disposal methods.</i>

5.6. Handling and Storage

Handling	<i>Wear protective clothing. Avoid contact with eyes, skin and clothes. Open and handle container carefully. Thoroughly washing after use is recommended.</i>
Storage	<i>Store between +2°C and +8°C.</i>

5.7. Exposure Controls / Personal Protection

Personal Protection	<i>Protective glasses, rubber gloves and clothing. Thoroughly washing after use is recommended.</i>
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5.8. Physical and Chemical Properties

Physical State	<i>Liquid</i>	Flash Point	<i>N/A</i>
Color	<i>Red</i>	Ignition Temperature	<i>N/A</i>
Odor	<i>N/A</i>	Explosion Limits	<i>N/A</i>
pH-Value	<i>6.2 – 6.7</i>	Vapor Pressure	<i>N/A</i>
Boiling Point	<i>100°C</i>	Solubility in Water	<i>complete</i>
Melting Point	<i>N/A</i>	Viscosity	<i>N/A</i>

5.9. Stability and Reactivity

Stability	<i>Chemically stable</i>
Incompatibilities	<i>None known</i>
Hazardous Polymerisation	<i>Will not occur</i>
Hazardous Decomposition Products	<i>Toxic fumes and carbon monoxide, carbon dioxide, nitrogen oxides</i>

5.10. Toxicological Information

N/A

5.11. Ecological Information

N/A

Section 6: TMB (Substrate for HRP Conjugate)

6.1. Chemical Characterization / Information on Ingredients

Character	<i>Product contains 0.05 % Tetramethyl Benzidine (TMB)</i>
CAS-No	<i>54827-17-7</i>
Classification	<i>Hazardous. Irritant</i>

6.2. Hazards Identification

Warnings	<i>Toxic if swallowed. Irritant, handle with care.</i>
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6.3. First Aid Measures

Eye Contact	<i>Promptly wash eyes with water for at least 15 minutes. Seek medical advice.</i>
Skin Contact	<i>Flush skin with copious amounts of water.</i>
Ingestion	<i>Wash out mouth with water provided person is conscious. Seek medical advice.</i>
Inhalation	<i>N/A</i>
Changing Clothes	<i>In case of severe contamination.</i>

6.4. Fire-Fighting Measures

Extinguishing Media	<i>Water spray, carbon dioxide, dry chemical powder or appropriate foam.</i>
Special Fire Fighting Procedure	<i>N/A</i>
Unusual Fire Fighting Procedure	<i>Emits toxic fumes under fire conditions.</i>
Thermal Decomposition	<i>Dangerous decomposition is not anticipated.</i>

6.5. Accidental Release Measures

Personal Protection	<i>Protective glasses, gloves and clothing</i>
Steps after Spillage	<i>Remove spilled fluid onto an inert material. Wash area with soap solution.</i>
Absorbent Material	<i>No restriction</i>
Waste Disposal Method	<i>Consult a specialist for disposal of the spilled substance.</i>

6.6. Handling and Storage

Handling	<i>Wear protective clothing. Open and handle container carefully.</i>
Storage	<i>Store between +2°C and +8°C.</i>
Other Precautions	<i>N/A</i>

6.7. Exposure Controls / Personal Protection

TLV *No*
 Personal Protection *Protective glasses, gloves and clothing.*

6.8. Physical and Chemical Properties

Physical State	<i>Liquid</i>	Ignition Temperature	<i>N/A</i>
Color	<i>Yellow</i>	Explosion Limits	<i>N/A</i>
Odor, pH-Value	<i>N/A</i>	Vapor Pressure	<i>N/A</i>
Solubility in Water	<i>Soluble</i>	Boiling Point	<i>> 100°C</i>
Flash Point	<i>N/A</i>	Viscosity	<i>N/A</i>

6.9. Stability and Reactivity

Hazardous Reactions *N/A*
 Hazardous Decomposition Products *Toxic fumes of carbon monoxide, carbon dioxide and nitrogen oxides.*

6.10. Toxicological Information

LD ₅₀ Oral	<i>Not known</i>	LD ₅₀ Skin	<i>Not known</i>
LD ₅₀	<i>Not known</i>	LD ₅₀ Inhalation	<i>Not known</i>

6.11. Ecological Information

Water Hazard Class *1 (own specification)*

Section 7: Stop-Solution (0.5 M Sulfuric Acid)

7.1. Chemical Characterization / Information on Ingredients

Character	<i>Product contains 0.5 M Sulfuric Acid (H₂SO₄)</i>
CAS-No of H ₂ SO ₄	<i>7664-93-9</i>
EINECS-No.	<i>213-639-5</i>
Classification	<i>Very caustic, toxic, possible carcinogen</i>

7.2. Hazards Identification

Warnings *Very caustic, toxic, possible carcinogen after inhalation, irritant, handle with care.*

7.3. First Aid Measures

Eye Contact *Promptly wash eyes with water for at least 15 minutes. Seek medical advice.*
 Skin Contact *Flush skin with copious amounts of water and soap.*
 Ingestion *Wash out mouth with water provided person is conscious. Seek medical advice.*
 Inhalation *Remove to fresh air. If breathing becomes difficult, seek medical advice.*
 Changing Clothes *In case of severe contamination.*

7.4. Fire-Fighting Measures

Extinguishing Media *Do not use water. Use carbon dioxide, dry chemical powder or appropriate foam.*
 Special Fire Fighting Procedure *Wear self-containing breathing apparatus and special protective clothes.*
 Unusual Fire Fighting Procedure *Emits toxic fumes under fire conditions.*
 Thermal Decomposition *N/A*

7.5. Accidental Release Measures

Personal Protection *Protective glasses, gloves and clothing.*
 Steps after Spillage *Remove spilled fluid onto an inert material. Ventilate area. Wash area with soap solution. Collect contaminated fluid and material in a special closable container.*
 Absorbent Material *No restriction*
 Waste Disposal Method *Consult a specialist for disposal of the spilled substance.*

7.6. Handling and Storage

Handling *Wear protective clothing. Open and handle container carefully.*
 Storage *Store between +2°C and +8°C.*
 Other Precautions *N/A*

7.7. Exposure Controls / Personal Protection

TLV *No*
 Personal Protection *Protective glasses, rubber gloves and acid-resistant clothing; breathing apparatus in severe cases; thoroughly washing after use is recommended.*

7.8. Physical and Chemical Properties

Physical State	<i>Liquid</i>	Vapor Pressure	<i>N/A</i>
Color	<i>Colourless</i>	Boiling Point	<i>> 100°C</i>
Odor	<i>N/A</i>	Flash Point	<i>N/A</i>
pH-Value	<i>1.0 - 3.0</i>	Solubility in Water	<i>Soluble</i>

7.9. Stability and Reactivity

Hazardous Reactions	<i>Incompatibility with bases, halogenides and metals.</i>
Hazardous Decomposition Products	<i>Sulfur oxides.</i>

7.10. Toxicological Information

LD ₅₀ Oral	<i>2140 mg/kg</i>	LD ₅₀ Skin	<i>Not known</i>
LDL0	<i>135 mg/kg</i>	LD ₅₀ Inhalation (rat)	<i>510 mg/m³ (2h)</i>

7.11. Ecological Information

Water Hazard Class	<i>1 (own specification), neutralization</i>
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Section 8: Disposal Consideration

Observe all Federal, State and Local laws concerning Health and Pollution.

Section 9: Transport Information

N/A

Section 10: Regulatory Information

N/A



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Section 11: Other Information

The information herein is believed to be correct as of the given data but is provided without warranty of any kind. The recipient of our products is responsible for observing any laws and guidelines applicable.

Quality Control

Diagnostic Automation/Cortez Diagnostics Inc.

DAI code # 8

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