MATERIAL SAFETY DATA SHEET

Histamine ELISA TEST KIT

1. IDENTIFICATION OF THE PREPARATION AND COMPANY.

1.1. Identification of the product:
Product name: Histamin ELISA TEST KIT
Product classification: In-vitro diagnostics
Product number: 5133-8

1.2. Manufacturer identification
Company Name: Diagnostic Automation, Inc.
Address: 21250 Califa Street, Suite 102 and 116, Woodland Hills, California 91367
Phone: (818) 591-3030 Fax: (818) 591-8383
E-mail: onestep@rapidtest.com
Webside: http://www.rapidtest.com
Emergency Telephone number: Please contact the local hospitals.
2. **Wash Buffer / Sample Diluent**
The Wash Buffer and the Sample Diluent contain no toxic or otherwise hazardous components.

3. **Standards**

3.1 **Chemical Characterization / Information on Ingredients**

<table>
<thead>
<tr>
<th>Character</th>
<th>aqueous buffer solution containing $&lt; 0.1 , M$ hydrochloric acid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>7647-01-0</td>
</tr>
<tr>
<td>EINECS-No.</td>
<td>231-595-7</td>
</tr>
<tr>
<td>Classification</td>
<td>irritant</td>
</tr>
</tbody>
</table>

3.2 **Hazards Identification**

**Warnings:** Causes burn. Irritating to respiratory system. Not hazardous according to directive 67/548/EG.

3.3 **First Aid Measures**

- **Eye Contact** Promptly wash eyes with water for at least 15 minutes. Assure adequate flushing by separating the eyelid with fingers. Seek medical advice.
- **Skin Contact** Flush skin with copious amounts of water for at least 15 minutes.
- **Ingestion** Wash out mouth with water provided person is conscious. Seek medical advice.
- **Inhalation** Remove to fresh air. If not breathing give artificial respiration. If breathing difficult give oxygen.
- **Changing Clothes** In case of severe contamination remove clothing and shoes.

3.4 **Fire-Fighting Measures**

- **Extinguishing Media** Water spray. Use carbon dioxide, dry chemical powder or appropriate foam.
- **Special Fire Fighting Procedure** Wear self-containing breathing apparatus and special protective clothes to prevent contact with skin and eyes.
- **Unusual Fire Fighting Procedure** N/A
- **Thermal Decomposition** Emits toxic fumes under fire conditions.

3.5 **Accidental Release Measures**

- **Personal Protection** Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors.
- **Steps after Spillage** Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

3.6 **Handling and Storage**

- **Handling** Do not breathe vapour. Do not get in eyes, on skin, on clothing.
- **Storage** Store between $+2^\circ \text{C}$ and $+8^\circ \text{C}$.
- **Special requirements** May develop pressure. Open carefully.
3.7 Exposure Controls / Personal Protection

Engineering Controls  Safety shower and eye bath. Mechanical exhaust required.
Hygiene Measures  Wash thoroughly after handling. Discard contaminated shoes. Wash contaminated clothing before reuse.
Exposure Limits  8 mg/m³, 5ppm (European Union).
Personal Protection  Respiratory protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.
Hand protection: Compatible chemical resistant gloves.
Eye protection: Chemical safety goggles.

3.8 Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
</tr>
<tr>
<td>pH-Value</td>
<td>1.3-1.5</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Complete</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3.9 Stability and Reactivity

Stability  Stable
Hazardous Decomposition Products  Hydrogen chloride gas.
Hazardous Polymerization  Will not occur

3.10 Toxicological Information

Symptoms of exposure  To the best of our knowledge, the chemical, physical and toxicological properties have not thoroughly investigated.
Route of Exposure  Skin contact: May cause skin irritation.
                   Skin absorption: May be harmful if absorbed through the skin.
                   Eye contact: May cause eye irritations.
                   Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
                   Ingestion: May be harmful if swallowed.
Chronic exposure  This product is or contains a component that is not classifiable as to its carcinogenicity based on IARC, ACGIH, NTP or EPA classification.

3.11 Ecological Information

Water Hazard Class  1 (own specification)
4. Conjugate

4.1 Chemical Characterization / Information on Ingredients

Character: aqueous, protein-containing mixture preserved with 0.01 % methylisothiazolone and 0.01 % bromonitrodioxane and 10 mg/l Proclin™ 300.

CAS-No.: Not determined

4.2 Hazards Identification

Warnings: 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).

4.3 First Aid Measures

Eye Contact: 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.

Skin Contact: Wash thoroughly with water and soap.

Ingestion: Wash out mouth with water provided person is conscious. Drink one cup of water or milk to dilute in the stomach. Seek medical advice.

Inhalation: No special first aid measures necessary; inhalation or aspiration unlikely.

4.4 Fire-Fighting Measures

Flash point: Non-flammable

Extinguishing Media: No restriction.

Special Fire Fighting Procedure: No special procedures are required. As with any fire, wear full protective clothing and self-contained breathing apparatus.

Unusual Fire Fighting Procedure: None

4.5 Accidental Release Measures

Personal Protection: Protective glasses, rubber gloves and special protective clothing.

Steps after Spillage: Absorb spill with an absorbent cloth, then wash the area thoroughly with soap and water.

Waste Disposal Method: Observe all federal, state and local laws when considering waste disposal methods.

4.6 Handling and Storage

Handling: Wear protective clothing. Avoid contact with eyes, skin and clothes. Open and handle container carefully. Thoroughly washing after use is recommended.

Storage: Store between +2°C and +8°C.
4.7 Exposure Controls / Personal Protection

Personal Protection: Protective glasses, rubber gloves and clothing. Thoroughly washing after use is recommended.

4.8 Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Red</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
</tr>
<tr>
<td>pH-Value</td>
<td>6.2-6.7</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100 °C</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>complete</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
</tbody>
</table>

4.9 Stability and Reactivity

- Stability: Chemically stable
- Incompatibilities: None known
- Hazardous Decomposition Products: Toxic fumes and carbon monoxide, carbon dioxide, nitro-gen oxides
- Hazardous Polymerization: Will not occur

4.10 Toxicological Information

N/A

4.11 Ecological Information

N/A

5. Specific Antibody

5.1 Chemical Characterization / Information on Ingredients

- Character: aqueous, protein-containing mixture preserved with 0.01 % potassium tetraiodomercurate (K₂HgI₄, resulting complex of KI and HgI₂).
- CAS-No. (HgI₂): 7774-29-0
- EINECS-No. (HgI₂): 231-873-8
- Classification: Very toxic, irritant.

5.2 Hazards Identification

Warnings: Toxic if swallowed. Irritates eyes, respiratory tract and skin. In case of breathing in or skin contact, a sensitization 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.

5.3 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 sever contamination*

### 5.4 Fire-Fighting Measures

**Extinguishing Media**  
*Water spray. Use carbon dioxide, dry chemical powder or appropriate foam.*

**Special Fire Fighting Procedure**  
*Wear self-contained breathing apparatus and special protective clothes.*

**Unusual Fire Procedure**  
*N/A*

**Thermal decomposition**  
*Emits toxic mercury fumes under fire conditions.*

### 5.5 Accidental Release Measures

**Personal Protection**  
*Protective glasses, rubber gloves and protective 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 or the spilled substance.*

### 5.6 Handling and Storage

**Handling**  
*Wear protective clothing. Avoid contact with eyes, skin and clothes. Open and handle container carefully. Thoroughly washing after use is recommended.*

**Storage**  
*Store between +2°C and +8°C.*

### 5.7 Exposure Controls / Personal Protection

**TLV**  
*No.*

**Personal Protection**  
*Protective glasses, rubber gloves and clothing. Thoroughly washing after use is recommended.*

### 5.8 Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Red</td>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>pH-Value</td>
<td>6.2-6.7</td>
<td>Solubility in Water</td>
<td>complete</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100°C</td>
<td>Ignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
<td>Viscosity</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 5.9 Stability and Reactivity

**Hazardous Decomposition Products**  
*Mercury*
5.10 Toxicological Information

| LD₅₀ Oral (rat) | 18 mg/kg | LD₅₀ Skin (rat) | 75 mg/kg |
| LD₅₀ Oral (man) | 357 mg/mg | LD₅₀ Inhalation | Not known |

5.11 Ecological Information

Water Hazard Class 1 (own specification)

6. TMB (Substrate for HRP Conjugate)

6.1 Chemical Characterization / Information on Ingredients

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

6.2 Hazard Identification

Warnings: Toxic if swallowed. Irritant, handle with care.

6.3 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.
Ingestion: Wash out mouth with water provided person is conscious. Seek medical advice.
Inhalation: N/A
Changing Clothes: In case of severe contamination

6.4 Fire-Fighting Measures

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

6.5 Accidental Release Measures

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

6.6 Handling and Storage

Handling: Wear protective clothing. Open and handle container
6.7 Exposure Controls / Personal Protection

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

6.8 Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Flash Point</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Yellow</td>
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<tr>
<td>Odor</td>
<td>N/A</td>
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</tr>
<tr>
<td>pH-Value</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt;100°C</td>
<td></td>
</tr>
</tbody>
</table>

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

LD₅₀ Oral Not known LD₅₀ Skin Not known
LD₅₀ Not known LD₅₀ Inhalation Not known

6.11 Ecological Information

Water Hazard Class 1 (own specification)

7. Stop-Solution (0.5 M Sulfuric Acid)

7.1 Chemical Characterization / Information on Ingredients

<table>
<thead>
<tr>
<th>Character</th>
<th>Product contains 0.5 M Sulfuric Acid (H₂SO₄)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No of H₂SO₄</td>
<td>7664-93-9</td>
</tr>
<tr>
<td>EINECS-No.</td>
<td>213-639-5</td>
</tr>
<tr>
<td>Classification</td>
<td>Very caustic, toxic, possible carcinogen</td>
</tr>
</tbody>
</table>

7.2 Hazard 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

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Flash Point</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Colorless</td>
<td>Boiling Point</td>
<td>&gt;100°C</td>
</tr>
<tr>
<td>Odor</td>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>N/A</td>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>pH-Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0-3.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.9 Stability and Reactivity

Hazardous Reactions: Incompatibility with bases, halogenides and metals.
Hazardous Decomposition Products: Sulfur oxides.
7.10 Ecological Information

LD50 Oral 2140 mg/kg  LD50 Skin Not Known
LD50 135 mg/kg  LD50 Inhalation (rat) 510 mg/m³ (2h)

7.11 Toxicological Information

Water Hazard Class 1 (own specification)

8. Reaction Solution

8.1 Chemical Characterization / Information on Ingredients

Character Solution contains 1,4 Benzoquinone in Ethanol.
CAS-No. (Benzoquinone) 106-51-4
CAS-No. (Enthanol) 64-17-5
EINECS-No. (Benzoquinone) 203-405-2
EINECS-No. (Ethanol) 200-578-6
Annex I Index No. (Benzoquinone) 606-013-010-3
Annex I Index No. (Ethanol) 6003-002-00-5
Classification Toxic, irritant, highly flammable.

8.2 Hazards Identification

Warnings: Toxic by inhalation and if swallowed, irritating to eyes, respiratory system and skin, very toxic to aquatic organisms (Benzoquinone). Highly flammable, harmful by inhalation, in contact with skin and if swallowed, danger of serious irreversible effects through inhalation, in contact with skin and if swallowed (Ethanol).

8.3 First Aid Measures

Eye Contact Promptly wash eyes with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical advice.
Skin Contact Flush skin with copious amounts of water for at least 15 minutes.
Ingestion Wash out mouth with water provided person is conscious. Seek medical advice.
Inhalation Remove to fresh air. If not breathing give artificial respiration. If breathing difficult give oxygen.
Changing Clothes In case of sever contamination remove clothing and shoes.

8.4 Fire-Fighting Measures

Extinguishing Media Water spray. Use carbon dioxide, dry chemical powder or appropriate foam.
Special Fire Fighting Procedure Wear self-contained breathing apparatus and special protective clothes to prevent contact with skin and eyes.
Explosion Data Benzoquinone, like most materials in powder form, is capable of creating a dust explosion.
Special risks Flammable liquid, emits toxic fumes under fire conditions, vapour may travel considerable distance to source or
8.5 Accidental Release Measures

**Personal Precaution**
Evacuate area. Shut off all sources of ignition. Use non-sparking tools. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.

**Steps after Spillage**
Absorb on dry-lime, sand or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

**Environmental Precaution**
Do not allow material to enter drains or water courses. Avoid contaminating sewers and waterways with this material.

8.6 Handling and Storage

**Handling**
Do not breathe vapour. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched. Wash thoroughly after handling.

**Storage**
Keep tightly closed. Keep away from heat, sparks and open flame. Store between +2°C and +8°C.

**Special requirements**
May develop pressure. Open carefully.

8.7 Exposure Controls /Personal Protection

**Engineering Controls**
Safety shower and eye bath. Use non-sparking tools. Mechanical exhaust required.

**Hygiene Measures**
Wash thoroughly after handling. Discard contaminated shoes. Wash contaminated clothing before reuse.

**Exposure Limits**
Benzoquinone: 0.4 mg/m³, 0.1 ppm (Germany).
Ethanol: 260 mg/m³, 200 ppm (Germany).

**Personal Protection**
Respiratory protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.
Hand protection: Compatible chemical resistant gloves.
Eye protection: Chemical safety goggles.

8.8 Physical and Chemical Properties

The below listed properties relate to the solution of Benzoquinone in Ethanol.

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
<th>Flash Point</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Brown</td>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
<td>Solubility in Water</td>
<td>Complete</td>
</tr>
<tr>
<td>pH-Value</td>
<td>1.3-1.5</td>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>78°C</td>
<td>Ignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
</tbody>
</table>

8.9 Stability and Reactivity
Stability
Materials to avoid
Strong oxidizing agents, acids, acid chlorides, acid anhydrides, alkali metals, reducing agents, ammonia, peroxides, halogens, aluminium.

Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Hazardous Polymerisation
Will not occur

8.10 Toxicological Information

Symptoms of exposure
Benzoquinone: Damage to the eyes, burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.
Ethanol: To the best of our knowledge, the chemical, physical and toxicological properties have not thoroughly investigated. Weakness, dizziness, gastrointestinal disturbances, nausea, headache, vomiting.

Route of Exposure
Skin contact: May cause skin irritation.
Skin absorption: May be harmful if absorbed through the skin.
Eye contact: May cause eye irritations.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

Chronic exposure
This product is or contains a component that is not classifiable as to its carcinogenicity based on IARC, ACGIH, NTP or EPA classification.

Acute Toxicity (Benzoquino)
LD50 (oral, rat): 100 mg/kg
LD50 (intraperitoneal, rat): 30 mg/kg
LD50 (intravenous, rat): 30 mg/kg

8.11 Ecological Information

Water Hazard Class 1 (own specification)

9. Neutralizing Solution

9.1 Chemical Characterization / Information on Ingredients

Character
Product contains 1 M Trizma base.

CAS-No.
77-86-1

EINECS-No.
201-064-4

Classification
Irritant (R36/38)

9.2 Hazards Identification

Warnings: The health risk is low. Irritant, handle with care.

9.3 First Aid Measures

Eye Contact
Promptly wash eyes with water or physiological salt water for at least 15 minutes. Remember to remove contact lenses. Seek medical ad-vice.

Skin Contact
Remove contaminated clothing and flush skin with copious amounts of water and mild soap.

Ingestion
Wash out mouth with water provided person is conscious and drink
plenty of water. Seek medical advice.

Inhalation
Go to fresh air. Keep at rest. If person feels queasy/discomfort: seek medical advice.

Changing Clothes
In case of severe contamination
Show this Safety Data Sheet to a physician or emergency ward

9.4 Fire-Fighting Measures

Extinguishing Media
Not relevant.

Special Fire Fighting Procedure
Not relevant.

Unusual Fire Fighting Procedure
Not relevant.

Thermal Decomposition
Not relevant.

9.5 Accidental Release Measures

Personal Precaution
Provide for sufficient ventilation/respiratory protection. See protective equipment listed in section 9.7.

Steps after Spillage
Absorb spilled liquid with a cloth, inert material or liquid absorbent material. Read the directions from the producer. Flush the area with water.

Waste Disposal Method
Do not empty in drains. See section 9.11. If the product contaminates sewages, inform appropriate authorities in accordance with the local regulations.

9.6 Handling and Storage

Handling
See Section 9.7

Storage
Store between +2°C and +8°C.

Other Precautions
N/A

9.7 Exposure Controls /Personal Protection

Personal Protection
Protective glasses, gloves or nitrile rubber when there is a risk of direct contact or splash and clothing.

9.8 Physical and Chemical Properties

Physical State
Liquid

Flash Point
N/A

Color
Colorless to slight yellow

Vapor Pressure
N/A

Odor
N/A

Solubility in Water
soluble

pH-Value
N/A

Viscosity
N/A

Boiling Point
N/A

Ignition Temperature
N/A

Explosion Limits
N/A

9.9 Stability and Reactivity

Stability
Stable. Non-combustible

Conditions to avoid
None

Materials to avoid
None

Hazardous Decomposition Products
None
9.10 Toxicological Information

Routes of exposure

May be absorbed through skin, by inhalation and ingestion.
- Inhalation: Inhalation of atomized liquid may cause irritation of the upper respiratory tract.
- Skin: Contact with the skin may cause irritation and redness.
- Eyes: Contact with the eyes may cause irritation and redness.
- Ingestion: Ingestion of large amounts can cause irritation with nausea and stomach ache.

Long term toxicity: None

9.11 Ecological Information

Ecotoxicity: None

Mobility
- Tris base is water soluble and is therefore spread quickly in the aquatic environment.

Persistence/degradability
- According to computer calculation Trizma base is expected to be easily biodegradable.

Bioaccumulative potential
- Trizma base: LogKow < 1 – no significant bioaccumulative effect (computer calculation)

Other adverse effects: None

10. Disposal Considerations

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

11. Transport Information

N/A

12. Regulatory Information

N/A

13. 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.
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