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| <b>List</b> | <b>Material Safety Data Sheet (Documentation Requirements)</b> |
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**Section 1 – Product and Company Information**

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|---|--|--|
| <b>Product Name</b><br><b>Catalog Number</b><br><b>Product Type</b>                   | Chloride<br>CD-CHL-480<br>Clinical Chemistry Reagent                   | <b>Emergency Telephone No.</b><br>CHEMTREC (800) 424-9300<br>International CHEMTREC (703) 527-3887 |
| <b>Company Name</b><br><b>Street Address</b><br><b>City, State, Zip Code, Country</b> | Concept Diagnostics<br>2527 S. Greenwood Pl.,<br>Ontario, CA 91761 USA | <b>Company Telephone No.</b><br>(909) 947-3462<br>Fax No. (909) 947-3162                           |

**Section 2 – Composition/Information on Ingredients**

|  | Chemical Names  | Concentration | CAS#      |
|--|---|---------------|-----------|
| Chloride Reagent:  | Mercuric Nitrate  | 0.058 mM      | 7783-34-8 |
|  | Mercuric Chloride   | 0.74 mM       | 7487-94-7 |
|  | Mercuric Thiocyanate  | 1.75 mM       | 592-85-8  |
|  | Ferric Nitrate  | 22.3 mM       | 7782-61-8 |
|  | Non-reactive ingredients and stabilizers in dilute acid and methanol. |               |           |
| Chloride Standard:   | Sodium Chloride   | 100 mEq/L     | 7647-14-5 |
| Other components either non-hazardous or at concentrations below that requiring hazardous listing. |   |               |           |

**Section 3 – Hazards Identification**

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| <p><b>Emergency Overview:</b><br/>                 Chloride Reagent: <b>Toxic Poison.</b> Contains Mercury and Methanol. Maybe harmful or fatal if swallowed.<br/>                 Routes of Entry: Inhalation, ingestion, eye contact, skin contact, and skin absorption.<br/>                 Skin contact: May cause irritation.<br/>                 Skin absorption: May be harmful if absorbed through skin.<br/>                 Eye contact: May cause irritation.<br/>                 Ingestion: May be harmful or fatal if swallowed.<br/>                 Inhalation: May be fatal if inhaled. May cause irritation to mucous membranes and upper respiratory tract.<br/>                 Chronic exposure to mercury compounds through any route can damage kidneys and central nervous system.<br/>                 In case of inhalation, ingestion, eye contact or skin contact, refer to section 4.<br/>                 For additional information on toxicity, please refer to Section 11.</p> |
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**Section 4 – First Aid Measures**

|                           |   |
|---------------------------|---|
| First Aid for Ingestion:  | Wash out mouth with plenty of water provided person is conscious. Call a physician.   |
| First Aid for Inhalation: | Remove to fresh air. If not breathing, give artificial respiration.<br>If breathing is difficult, give oxygen. Call a physician.  |
| First Aid for Skin:       | Wash contaminated area immediately with soap and plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse.<br>Call a physician if necessary. |
| First Aid for Eyes:       | Flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician if necessary.                                    |

**Section 5- Fire and Explosive Hazard Data**

|  |                                |                                 |
|--|--------------------------------|---------------------------------|
| <b>Flash Point</b><br>N/A  | <b>Explosion Limits</b><br>N/A | <b>Autoignition Temp</b><br>N/A |
| <b>Extinguishing Media</b><br>Use media appropriate for site conditions.   |                                |                                 |
| <b>Firefighting Measures</b><br>Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.<br>Unusual Fire & Explosion Hazards: Emits toxic fumes under fire conditions. |                                |                                 |

**Section 6 – Accidental Release Measures**

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| <b>Procedure to be Followed in Case of Leak or Spill</b><br>Ventilate the area. Absorb on inert material. Place material and contaminated disposables into a suitable container, seal, label and hold for disposal. | <b>Personal Protection</b><br>Refer to section 8. |
| <b>Methods for Disposal</b><br>Refer to section 13.   |   |

**Section 7 – Handling and Storage**

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| <p><b>Handling</b><br/>                 Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Avoid inhalation or ingestion.<br/>                 Do not pipette by mouth. Refer to Section 8.</p> |
| <p><b>Storage</b><br/>                 Store according to package directions.</p>   |

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**Chloride**

**Section 8 – Exposure Controls / PPE**

|  |   |
|--|---|
| <p><b>Engineering Controls</b><br/>Safety shower and eyewash should be available.<br/>Ventilation: General room ventilation is satisfactory.</p> <p><b>General Hygiene Measures</b><br/>Wash hands thoroughly after removing gloves.</p> | <p><b>Personal Protective Equipment</b><br/>Respiratory Protection: None required where adequately ventilated.<br/>Protective Clothing: Lab coat<br/>Protective Gloves: chemical resistant latex or rubber gloves<br/>Eye Protection: Safety glasses or goggles<br/>Other Protective Equipment: Use a safety pipette device</p> |
|--|---|

**Section 9 - Physical Data**

|                                    |                                       |   |
|------------------------------------|---------------------------------------|---|
| <b>Boiling Point</b><br>N/A        | <b>Solubility in Water</b><br>Soluble | <b>Specific Gravity (g/cm<sup>3</sup>)</b><br>N/A |
| <b>Odor</b><br>No Significant Odor | <b>pH</b><br>Not relevant to safety   | <b>Appearance</b><br>Clear pale yellow liquid     |

**Section 10 – Stability and Reactivity**

|   |   |
|---|---|
| <b>Stability</b><br>Stable, under normal handling and storage conditions. | <b>Materials to Avoid</b><br>N/A                  |
| <b>Hazardous Decomposition Products</b><br>N/A                            | <b>Hazardous Polymerization</b><br>Will not occur |

**Section 11 – Toxicological information**

**Mercuric nitrate:**  
Toxicological Data:

|                           |              |                |              |
|---------------------------|--------------|----------------|--------------|
| Route of exposure: Oral   | Species: Rat | Dose: 26 mg/kg | Result: LD50 |
| Route of exposure: Dermal | Species: Rat | Dose: 75 mg/kg | Result: LD50 |

Carcinogenicity:

|               |                          |                                |                   |
|---------------|--------------------------|--------------------------------|-------------------|
| Cancer Lists: | NTP Known Carcinogen: No | NTP Anticipated Carcinogen: No | IARC Category: No |
|---------------|--------------------------|--------------------------------|-------------------|

**Mercuric chloride:**  
Toxicological Data:

|                         |              |               |              |
|-------------------------|--------------|---------------|--------------|
| Route of exposure: Oral | Species: Rat | Dose: 1 mg/kg | Result: LD50 |
|-------------------------|--------------|---------------|--------------|

Irritation Data (Standard Draize):

|                         |                 |                  |                           |
|-------------------------|-----------------|------------------|---------------------------|
| Route of exposure: Skin | Species: Rabbit | Dose: 500 mg/24H | Result: Severe irritation |
| Route of exposure: Eye  | Species: Rabbit | Dose: 50 ug/24H  | Result: Severe irritation |

Reproductive Toxicity: All forms of mercury can cross the placenta to the fetus, but most information has been obtained from experimental animals. Mercury compounds can damage the developing fetus and decrease fertility in males and females.  
Carcinogenicity: EPA / IRIS classification: Group C – Possible human carcinogen.

|               |                          |                                |                  |
|---------------|--------------------------|--------------------------------|------------------|
| Cancer Lists: | NTP Known Carcinogen: No | NTP Anticipated Carcinogen: No | IARC Category: 3 |
|---------------|--------------------------|--------------------------------|------------------|

**Mercuric thiocyanate:**  
Toxicological Data:

|                         |              |                |              |
|-------------------------|--------------|----------------|--------------|
| Route of exposure: Oral | Species: Rat | Dose: 46 mg/kg | Result: LD50 |
|-------------------------|--------------|----------------|--------------|

Reproductive Toxicity: All forms of mercury can cross the placenta to the fetus, but most information has been obtained from experimental animals. Mercury compounds can damage the developing fetus and decrease fertility in males and females.  
Carcinogenicity:

|               |                          |                                |                  |
|---------------|--------------------------|--------------------------------|------------------|
| Cancer Lists: | NTP Known Carcinogen: No | NTP Anticipated Carcinogen: No | IARC Category: 3 |
|---------------|--------------------------|--------------------------------|------------------|

**Section 12 – Ecological Information**

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| <p>For mercury:<br/>This material has an experimentally-determined bioconcentration factor (BCF) of greater than 100. This material is expected to significantly bioaccumulate. This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are less than 1 mg/L.</p> |
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**Section 13 – Disposal Considerations**

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| <p>Contact a licensed professional waste disposal service to dispose of this material.<br/>Dispose of in accordance with current national and regional regulations.</p> |
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**Section 14 – Transport Information**

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| <p>Product is stable under normal conditions.<br/>Non-hazardous for transport.</p> |
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| <b>Chloride</b>   |  |
| <b>Section 15 – Regulatory Information</b>  |  |
| OSHA Status: Regulated under Subpart Z<br>Classification: The preparation is classified and labeled according to EEC Directive n.88/379.<br>Symbol: Xn (Harmful)<br>Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Possible risks of irreversible effects.<br>Safety Statements: Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. If swallowed, seek medical advice immediately and show this container or label. |  |
| California Prop 65 Warning: This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.  |  |
| Canada WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.   |  |
| <b>Mercuric nitrate</b>   |  |
| United States Regulations:<br>OSHA: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)   |  |
| EPA:<br>SARA 311/312: Acute: Yes; Chronic: Yes; Fire: No; Pressure: No; Reactivity: No<br>SARA 313: This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.<br>SARA 302 RQ: No; TPQ: No<br>304 CERLA (40 CFR 302.4): RQ 10 lbs.<br>Clean Water Act (40 CFR 116.4): RQ 10 lbs.<br>RCRA: Contains RCRA regulated substances.   |  |
| Chemical Inventory Status<br>TSCA 8(b): Yes   |  |
| <b>Mercuric chloride</b>  |  |
| Chemical Inventory Status – Part 1:<br>TSCA: Yes<br>EC: Yes<br>Japan: Yes<br>Australia: Yes   | Federal, State & International Regulations – Part 1:<br>SARA 302 RQ: No<br>SARA 302 TPQ: No<br>SARA 313 List: No<br>SARA 313 Chemical Category: Mercury Comp |
| Chemical Inventory Status – Part 2:<br>Korea: Yes<br>Canada DSL: Yes; NDSL: No<br>Phil: Yes   | Federal, State & International Regulations – Part 2:<br>CERCLA: 1<br>RCRA 261.33: No<br>TSCA 8(d): No  |
| Chemical Weapons Convention: No<br>TSCA 12(b): No<br>CDTA: No   | SARA 311/312:<br>Acute: Yes; Chronic: Yes; Fire: No; Pressure: No; Reactivity: No  |
| Australian Hazchem Code: 2X   |  |
| Poison Schedule: S7   |  |
| <b>Mercuric thiocyanate</b>   |  |
| Chemical Inventory Status – Part 1:<br>TSCA: Yes<br>EC: Yes<br>Japan: No<br>Australia: Yes  | Federal, State & International Regulations – Part 1:<br>SARA 302 RQ: No<br>SARA 302 TPQ: No<br>SARA 313 List: No<br>SARA 313 Chemical Category: Mercury Comp |
| Chemical Inventory Status – Part 2:<br>Korea: No<br>Canada DSL: Yes; NDSL: No<br>Phil: Yes  | Federal, State & International Regulations – Part 2:<br>CERCLA: 10<br>RCRA 261.33: No<br>TSCA 8(d): No   |
| Chemical Weapons Convention: No<br>TSCA 12(b): No<br>CDTA: No   | SARA 311/312:<br>Acute: Yes; Chronic: Yes; Fire: No; Pressure: No; Reactivity: No  |
| <b>Section 16 – Other Information</b>   |  |
| This Product is labeled in accordance with CFR21 (Food and Drugs), Section 809.10.  |  |
| The information contained herein has been compiled from data presented in various technical sources believed to be accurate. We make no warranties, express or implied, and assume no liability in connection with the use of this information. It is the user's responsibility to determine the suitability of this information and to assure the adoption of necessary safety precautions.  |  |
| N/A - Not Applicable or Not Available   |  |