# Material Safety Data Sheet

## MULTISTIX 10 SG

### MSDS no. 2300

## 1. Product and company identification

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
<td>MULTISTIX 10 SG</td>
</tr>
<tr>
<td><strong>Code</strong></td>
<td>2300, 03445915, 10318962, 10319133</td>
</tr>
<tr>
<td><strong>Material uses</strong></td>
<td>Diagnostic Agents</td>
</tr>
<tr>
<td><strong>Product type</strong></td>
<td>Solid.</td>
</tr>
<tr>
<td><strong>Manufactured/supplied</strong></td>
<td>Siemens Healthcare Diagnostics Inc.</td>
</tr>
<tr>
<td></td>
<td>1717 Deerfield Road</td>
</tr>
<tr>
<td></td>
<td>Deerfield, IL 60015-0778</td>
</tr>
<tr>
<td></td>
<td>1-877-229-3711</td>
</tr>
</tbody>
</table>

### In case of emergency

- **MSDS no.** 2300
- **In case of emergency**
  - **Code**
  - **Material uses**
  - **Product type**
  - **Manufactured/supplied**

## 2. Hazards identification

### Physical state

- **Solid.**

### Odor

- **Odorless.**

### OSHA/HCS status

- **This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).**

### Emergency overview

- **NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.**
  - No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
  - **Not available.**

### Potential acute health effects

- **Inhalation**
  - No known significant effects or critical hazards.
- **Ingestion**
  - No known significant effects or critical hazards.
- **Skin**
  - No known significant effects or critical hazards.
- **Eyes**
  - No known significant effects or critical hazards.

### Potential chronic health effects

- **Chronic effects**
  - No known significant effects or critical hazards.
- **Carcinogenicity**
  - No known significant effects or critical hazards.
- **Mutagenicity**
  - No known significant effects or critical hazards.
- **Teratogenicity**
  - No known significant effects or critical hazards.
- **Developmental effects**
  - No known significant effects or critical hazards.
- **Fertility effects**
  - No known significant effects or critical hazards.
- **Target organs**
  - Not available.

### Over-exposure signs/symptoms

- **Inhalation**
  - No specific data.
- **Ingestion**
  - No specific data.
- **Skin**
  - No specific data.
- **Eyes**
  - No specific data.

See toxicological information (Section 11)
3. Composition/information on ingredients

United States

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>boric acid</td>
<td>10043-35-3</td>
<td>0.000284</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

**Eye contact**
Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

**Skin contact**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

**Inhalation**
Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

**Ingestion**
Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

5. Fire-fighting measures

**Flammability of the product**
No specific fire or explosion hazard.

**Extinguishing media**
In case of fire, use water spray (fog), foam or dry chemical.

**Not suitable**
None known.

**Special exposure hazards**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous combustion products**
No specific data.

**Special protective equipment for fire-fighters**
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

**Personal precautions**
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions**
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Small spill**
Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
7. Handling and storage

Handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Product name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States boric acid</td>
<td>ACGIH TLV (United States, 6/2013).</td>
</tr>
<tr>
<td></td>
<td>STEL: 6 mg/m³ 15 minutes. Form: Inhalable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
9. Physical and chemical properties

Physical state: Solid.
Color: White.
Odor: Odorless.
VOC: 0.000083 % (w/w)

10. Stability and reactivity

Stability: The product is stable.
Conditions to avoid: No specific data.
Materials to avoid: No specific data.
Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

United States

Acute toxicity
Not available.

Chronic toxicity
Not available.

Carcinogenicity
Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>EPA</th>
<th>NIOSH</th>
<th>NTP</th>
<th>OSHA</th>
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</thead>
<tbody>
<tr>
<td>boric acid</td>
<td>A4</td>
<td>-</td>
<td>-</td>
<td>None.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Mutagenicity
Not available.

Teratogenicity
Not available.

Reproductive toxicity
Not available.

Canada

Acute toxicity
Not available.

Chronic toxicity
Not available.

Carcinogenicity
Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>ACGIH</th>
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<tbody>
<tr>
<td>boric acid</td>
<td>A4</td>
<td>-</td>
<td>-</td>
<td>None.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Mutagenicity
Not available.

8/12/2014.
11. Toxicological information

**Teratogenicity**
Not available.

**Reproductive toxicity**
Not available.

12. Ecological information

**Environmental effects**: No known significant effects or critical hazards.

**United States**

**Aquatic ecotoxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>boric acid</td>
<td>US EPA</td>
<td>Acute EC50 777 ppm Fresh water</td>
<td>Daphnia - Water flea - Daphnia magna - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>US EPA</td>
<td>Acute EC50 226 ppm Fresh water</td>
<td>Daphnia - Water flea - Daphnia magna - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 137.99 mg/l Marine water</td>
<td>Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 92.07 to 148 mg/l Marine water</td>
<td>Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 89.07 to 100.7 mg/l Marine water</td>
<td>Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 84.28 mg/l Marine water</td>
<td>Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>US EPA</td>
<td>Acute LC50 100 ppm Fresh water</td>
<td>Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss - 2.3 g</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 226000 µg/l</td>
<td>Daphnia - Water flea - Daphnia</td>
<td>48 hours</td>
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</tbody>
</table>
12. Ecological information

<table>
<thead>
<tr>
<th>Type</th>
<th>Species</th>
<th>Parameter</th>
<th>Concentration</th>
<th>LC50/LC90 (µg/l)</th>
<th>Exposure Time</th>
<th>Other Information</th>
</tr>
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<tbody>
<tr>
<td>Acute LC50</td>
<td>Daphnia magna</td>
<td>Fresh water</td>
<td>magna</td>
<td>&lt;24 hours</td>
<td>133000</td>
<td>48 hours</td>
</tr>
<tr>
<td>Acute LC50</td>
<td>Daphnia magna</td>
<td>Neonate</td>
<td>magna</td>
<td>125000 to 162000</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td>Acute LC50</td>
<td>Fish - Flannelmouth sucker</td>
<td>Fresh water</td>
<td>latipinnis</td>
<td>100000</td>
<td>96 hours</td>
<td></td>
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<tr>
<td>Acute LC50</td>
<td>Fish - Colorado squawfish</td>
<td>Fresh water</td>
<td>lucius</td>
<td>6000</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Aquatic ecotoxicity</td>
<td></td>
<td></td>
<td>(Fledgling, Hatchling, Weanling)</td>
<td>6 to 115 days</td>
<td>0.4 to 1.1 g</td>
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<tr>
<td>Chronic NOEC</td>
<td>Daphnia magna</td>
<td>Marine water</td>
<td>magna</td>
<td>4 ppm</td>
<td>21 days</td>
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<tr>
<td>Chronic NOEC</td>
<td>Daphnia magna</td>
<td>&lt;24 hours</td>
<td>magna</td>
<td>6000</td>
<td>21 days</td>
<td></td>
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<tr>
<td>Chronic NOEC</td>
<td>Fish - Rainbow trout,donaldson trout</td>
<td>Fresh water</td>
<td>Oncorhynchus mykiss</td>
<td>2100</td>
<td>87 days</td>
<td></td>
</tr>
</tbody>
</table>

**Biodegradability**

Not available.

**Canada**

**Aquatic ecotoxicity**

Not available.

**Biodegradability**

Not available.

13. Disposal considerations

**Waste disposal**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

8/12/2014
13. Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

**International transport regulations**

**DOT Classification**

<table>
<thead>
<tr>
<th>UN number</th>
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<tbody>
<tr>
<td>Proper shipping name</td>
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<tr>
<td>Classes</td>
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<tr>
<td>PG*</td>
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<td>Additional information</td>
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**TDG Classification**

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<td>Label</td>
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**Mexico Classification**

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<td>Label</td>
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<td>Additional information</td>
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**IMDG Class**

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<td>Classes</td>
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<td>PG*</td>
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<td>Label</td>
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<td>Additional information</td>
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</table>
14. Transport information

IATA-DGR Class

<table>
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<tr>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
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<tbody>
<tr>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

PG*: Packing group

15. Regulatory information

United States

HCS Classification: Not regulated.

U.S. Federal regulations:
- TSCA 8(a) CDR Exempt/Partial exemption: Not determined
- United States inventory (TSCA 8b): Not determined
- SARA 302/304: No products were found.
- SARA 311/312 Hazards identification: Not regulated.
- Clean Water Act (CWA) 307: arsanilic acid
- Clean Water Act (CWA) 311: Iron chloride (FeCl3), hexahydrate
- Clean Air Act (CAA) 112 accidental release prevention: No products were found.

State regulations:
- Connecticut Carcinogen Reporting: None of the components are listed.
- Connecticut Hazardous Material Survey: None of the components are listed.
- Florida substances: None of the components are listed.
- Illinois Chemical Safety Act: None of the components are listed.
- Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
- Louisiana Reporting: None of the components are listed.
- Louisiana Spill: None of the components are listed.
- Massachusetts Spill: None of the components are listed.
- Massachusetts Substances: None of the components are listed.
- Michigan Critical Material: None of the components are listed.
- Minnesota Hazardous Substances: None of the components are listed.
- New Jersey Hazardous Substances: None of the components are listed.
- New Jersey Spill: None of the components are listed.
- New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
- New York Acutely Hazardous Substances: None of the components are listed.
- New York Toxic Chemical Release Reporting: None of the components are listed.
- Pennsylvania RTK Hazardous Substances: None of the components are listed.
- Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>arsanilic acid</td>
<td>Yes.</td>
<td>No.</td>
<td>0.06 µg/day (inhalation)</td>
<td>No.</td>
</tr>
</tbody>
</table>

8/12/2014.
15. Regulatory information

United States inventory (TSCA 8b) : Not determined.

Use only for medical diagnostic (R&D) purposes

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists:
- CEPA Toxic substances: None of the components are listed.
- Canadian ARET: None of the components are listed.
- Canadian NPRI: None of the components are listed.
- Alberta Designated Substances: None of the components are listed.
- Ontario Designated Substances: None of the components are listed.
- Quebec Designated Substances: None of the components are listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information

EU regulations

Risk phrases : This product is not classified as dangerous according to EU legislation.

International regulations

International lists:
- Australia inventory (AICS): Not determined.
- China inventory (IECSC): Not determined.
- Japan inventory: Not determined.
- Korea inventory: Not determined.
- Malaysia Inventory (EHS Register): Not determined.
- New Zealand Inventory of Chemicals (NZIoC): Not determined.
- Philippines inventory (PICCS): Not determined.
- Taiwan inventory (CSNN): Not determined.

Date of printing : 8/12/2014.
Date of issue : 8/12/2014.
Version : 5

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.