1. IDENTIFICATION

Product identifier
Product Name: BART™ Tester, Iron Related Bacteria

Other means of identification
Product Code(s): 2432309

Safety data sheet number: M03049

Recommended use of the chemical and restrictions on use
Recommended Use: Laboratory Use.
Uses advised against: Consumer use.
Restrictions on use: For Laboratory Use Only.

Details of the supplier of the safety data sheet
Manufacturer Address: Hach Company P.O.Box 389  Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number: +1(303) 623-5716 - 24 Hour Service  +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification
Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)
Not applicable

Label elements
Signal word
Warning
Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Mixture.</td>
</tr>
<tr>
<td>Chemical nature</td>
<td>Mixture of inorganic salts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Percent Range</th>
<th>HMRIC #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Components</td>
<td>-</td>
<td>100%</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance.

Inhalation
Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact
Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion
Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed
Symptoms
Burning sensation.

Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
metal oxides.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions
Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.
7. HANDLING AND STORAGE

Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities
Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Flammability class
Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection
Wear suitable gloves. Impervious gloves.

Eye/face protection
If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection
Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations
Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Environmental exposure controls
Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards
None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state
Solid

Appearance
powder

Color
brown

Odor
Odorless

Odor threshold
Not applicable
Product Code(s): 2432309
Product Name: BART™ Tester, Iron Related Bacteria

Issue Date: 20-Nov-2018
Revision Date: 20-Nov-2018
Version: 8.300001
Page: 5 / 12

Property                     Values                     Remarks • Method
Molecular weight            Not applicable
pH                          No data available
Melting point/freezing point No data available
Boiling point / boiling range No data available
Evaporation rate            Not applicable
Vapor pressure              Not applicable
Vapor density (air = 1)      Not applicable
Specific gravity (water = 1 / air = 1) No data available
Partition Coefficient (n-octanol/water) No data available
Soil Organic Carbon-Water Partition Coefficient
Autoignition temperature    No data available
Decomposition temperature   No data available
Dynamic viscosity           Not applicable
Kinematic viscosity         Not applicable

Solubility(ies)

Water solubility

<table>
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<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
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</thead>
<tbody>
<tr>
<td>No information available</td>
<td>No data available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Solubility in other solvents

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Solubility classification</th>
<th>Solubility</th>
<th>Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>None reported</td>
<td>No information available</td>
<td>No data available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Other Information

Metal Corrosivity

Steel Corrosion Rate: Not applicable
Aluminum Corrosion Rate: Not applicable

Volatile Organic Compounds (VOC) Content

Not applicable

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Volatile organic compounds (VOC) content</th>
<th>CAA (Clean Air Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Components</td>
<td>-</td>
<td>No data available</td>
<td>-</td>
</tr>
</tbody>
</table>

Explosive properties

Upper explosion limit: No data available
Lower explosion limit: No data available
10. STABILITY AND REACTIVITY

**Reactivity**
Not applicable.

**Chemical stability**
Stable under normal conditions.

**Explosion data**
- Sensitivity to Mechanical Impact: None.
- Sensitivity to Static Discharge: None.

**Possibility of Hazardous Reactions**
None under normal processing.

**Hazardous polymerization**
Hazardous polymerization does not occur.

**Conditions to avoid**
None known based on information supplied.

**Incompatible materials**

**Hazardous Decomposition Products**
Metal oxides.

11. TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Product Information**

- **Inhalation**
  May cause irritation of respiratory tract.

- **Eye contact**
  Irritating to eyes. Causes serious eye irritation.

- **Skin contact**
  Causes skin irritation.

- **Ingestion**
  Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

- **Symptoms**
  Redness. May cause redness and tearing of the eyes.

**Acute toxicity**
Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
No data available.

Unknown Acute Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)
The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>ATEmix (oral)</th>
<th>15,500.20 mg/kg</th>
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</thead>
<tbody>
<tr>
<td>ATEmix (dermal)</td>
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<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-vapor)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-gas)</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
No data available.

Serious eye damage/irritation
Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
No data available.

Ingredient Sensitization Data
No data available.

STOT - single exposure
May cause respiratory irritation.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data**
No data available.

**Carcinogenicity**
Based on available data, the classification criteria are not met.

**Product Carcinogenicity Data**
No data available.

**Ingredient Carcinogenicity Data**
No data available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Components</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Legend**

| **ACGIH** (American Conference of Governmental Industrial Hygienists) | Does not apply |
| **IARC** (International Agency for Research on Cancer) | Group 2A - Probably Carcinogenic to Humans |
| **NTP** (National Toxicology Program) | Does not apply |
| **OSHA** (Occupational Safety and Health Administration of the US Department of Labor) | X - Present |

**Germ cell mutagenicity**
Based on available data, the classification criteria are not met.

**Product Germ Cell Mutagenicity *invitro* Data**
No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**
No data available.

**Product Germ Cell Mutagenicity *invivo* Data**
No data available.

**Ingredient Germ Cell Mutagenicity *invivo* Data**
No data available.

**Reproductive toxicity**
Based on available data, the classification criteria are not met.

**Product Reproductive Toxicity Data**
No data available.

**Ingredient Reproductive Toxicity Data**
No data available.

**Aspiration hazard**
Based on available data, the classification criteria are not met.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**
Based on available data, the classification criteria are not met.

**Unknown aquatic toxicity**
0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.
Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number Not applicable

14. TRANSPORT INFORMATION

U.S. DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated
Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories
TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories
EINECS/ELINCS Complies
ENCS Does not comply
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material
California Proposition 65
This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations
This product may contain substances regulated by state right-to-know regulations.

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)

NFPA and HMIS Classifications

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
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<tbody>
<tr>
<td></td>
<td>- 2</td>
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<td>0</td>
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</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
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<tbody>
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<td></td>
<td>- 2</td>
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<td>0</td>
<td>X</td>
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</tbody>
</table>

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH: Immediately Dangerous to Life or Health
ACGIH: ACGIH (American Conference of Governmental Industrial Hygienists)
NDF: no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA: TWA (time-weighted average)
MAC: Maximum Allowable Concentration
X: Listed

STEL: STEL (Short Term Exposure Limit)
Ceiling: Ceiling Limit Value
Vacated: These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these “liberated” exposure limits in their state regulations.

SKN*: Skin designation
SKN+: Skin sensitization
RSP+: Respiratory sensitization
**
C: Carcinogen
R: Reproductive toxicant
M: mutagen
USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet