1 Identification

- Product identifier
- Trade name: Fenvalerate
- Part number: PST-1445, PST-1445-10MG
- CAS Number: 51630-58-1
- EC number: 257-326-3
- Application of the substance / the mixture: Reagents and Standards for Analytical Chemical Laboratory Use
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: Agilent Technologies, Inc.
    5301 Stevens Creek Blvd.
    Santa Clara, CA  95051  USA
  - Information department:
    Telephone: 800-227-9770
    e-mail: pdl-msds_author@agilent.com
  - Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

- Classification of the substance or mixture
  - GHS06 Skull and crossbones
  - Acute Toxicity (Oral) - Category 3
    H301  Toxic if swallowed.
  - GHS07
  - Skin Irritation - Category 2
    H315  Causes skin irritation.
  - Eye Irritation - Category 2A
    H319  Causes serious eye irritation.
  - Specific Target Organ Toxicity - Single Exposure - Category 3
    H335  May cause respiratory irritation.

- Label elements
  - GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS06
    - GHS07

- Signal word: Danger
- Hazard-determining components of labeling: fenvalerate
- Hazard statements
  Toxic if swallowed.
  Causes skin irritation.

(Contd. on page 2)
Trade name: Fenvalerate

Causes serious eye irritation.
May cause respiratory irritation.

- **Precautionary statements**
  - If medical advice is needed, have product container or label at hand.
  - Keep out of reach of children.
  - Read label before use.
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Use only outdoors or in a well-ventilated area.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - If swallowed: Immediately call a poison center/doctor.
  - Specific treatment (see on this label).
  - Rinse mouth.
  - If on skin: Wash with plenty of water.
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  - Continue rinsing.
  - Call a poison center/doctor if you feel unwell.
  - Take off contaminated clothing and wash it before reuse.
  - If skin irritation occurs: Get medical advice/attention.
  - If eye irritation persists: Get medical advice/attention.
  - Store in a well-ventilated place. Keep container tightly closed.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - NFPA ratings (scale 0 - 4)
    - Health = 2
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - HEALTH = 2
    - FIRE = 0
    - REACTIVITY = 0

- **3 Composition/Information on ingredients**
  - Chemical characterization: Substances
  - CAS No. Description
    - 51630-58-1 fenvalerate
  - Identification number(s)
    - EC number: 257-326-3
4 First aid measures

- Description of first aid measures
  - General information:
    Immediately remove any clothing soiled by the product.
    In case of irregular breathing or respiratory arrest provide artificial respiration.
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact:
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: Do not induce vomiting; immediately call for medical help.

- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  - Special hazards arising from the substance or mixture: No further relevant information available.
  - Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up:
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

- Handling:
- Precautions for safe handling
  - Thorough dedusting.
  - Ensure good ventilation/exhaustion at the workplace.
- Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
8 Exposure controls/ Personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing.
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes and skin.
  - Breathing equipment:
    When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
    Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
  - Protection of hands:
    Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
  - Material of gloves
    For normal use: nitrile rubber, 11-13 mil thickness
    For direct contact with the chemical: butyl rubber, 12-15 mil thickness
    The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
  - Penetration time of glove material
    For normal use: nitrile rubber: 1 hour
    For direct contact with the chemical: butyl rubber: >4 hours
  - Eye protection:

   Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Solid
    - Color: Not determined.
    - Odor: Characteristic
Trade name: Fenvalerate

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Change in condition:</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Product is not flammable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Not determined</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor pressure at 20 °C:</td>
<td>0.0000003 hPa</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>1.17 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water at 20 °C:</td>
<td>0.001 g/l</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity:</td>
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</tr>
<tr>
<td>Dynamic</td>
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</tr>
<tr>
<td>Kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solids content</td>
<td>100.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability: No further relevant information available.
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.
**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
  - **LD/LC50 values that are relevant for classification:**
    - **ATE (Acute Toxicity Estimate)**
      - Oral: LD50 70.2 mg/kg (rat)
    - **51630-58-1 fenvalerate**
      - Oral: LD50 70.2 mg/kg (rat)
      - Dermal: LD50 >5,000 mg/kg (rat)
  - **Primary irritant effect:**
    - **on the skin:** Irritant to skin and mucous membranes.
    - **on the eye:** Irritating effect.
    - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**
    - **Carcinogenic categories**
      - **IARC (International Agency for Research on Cancer)**
        - 3
      - **NTP (National Toxicology Program)**
        - Substance is not listed.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
  - **Persistence and degradability** No further relevant information available.
  - **Behavior in environmental systems:**
    - **Bioaccumulative potential** No further relevant information available.
    - **Mobility in soil** No further relevant information available.
  - **Additional ecological information:**
  - **General notes:**
    - Water hazard class 3 (Assessment by list): extremely hazardous for water
    - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
    - Danger to drinking water if even extremely small quantities leak into the ground.
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.
    - **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
  - **Recommendation:**
    - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
# 14 Transport information

- **UN-Number**
  - DOT, TDG, IMDG, IATA: UN2811

- **UN proper shipping name**
  - DOT: Toxic solids, organic, n.o.s. (fenvalerate)
  - TDG: 2811 TOXIC SOLID, ORGANIC, N.O.S. (fenvalerate), ENVIRONMENTALLY HAZARDOUS
  - IMDG, IATA: TOXIC SOLID, ORGANIC, N.O.S. (fenvalerate)

- **Transport hazard class(es)**
  - **DOT**
    - Class: 6.0
    - Label: 6.1
  - **TDG (Transport dangerous goods):**
    - Class: 6.1 Toxic substances
    - Label: 6.1
  - **IMDG, IATA**
    - Class: 6.1 Toxic substances
    - Label: 6.1

- **Packing group**
  - DOT: not regulated
  - TDG, IMDG, IATA: III

- **Environmental hazards:**
  - **Special marking (TDG):** Symbol (fish and tree)
  - **Special precautions for user** Warning: Toxic substances
  - **Danger code (Kemler):** 60
  - **EMS Number:** F-A,S-A
  - **Stowage Category:** A
Trade name: Fenvalerate

- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.
- DOT
  - Quantity limitations:
    - On passenger aircraft/rail: 100 kg
    - On cargo aircraft only: 200 kg
- TDG
  - Excepted quantities (EQ):
    - Code: E1
    - Maximum net quantity per inner packaging: 30 g
    - Maximum net quantity per outer packaging: 1000 g
- IMDG
  - Limited quantities (LQ)
    - 5 kg
  - Excepted quantities (EQ)
    - Code: E1
    - Maximum net quantity per inner packaging: 30 g
    - Maximum net quantity per outer packaging: 1000 g
- UN "Model Regulation":
  - UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (FENVALERATE), 6.1, III, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
  - Section 355 (extremely hazardous substances):
    - Substance is not listed.
  - Section 313 (Specific toxic chemical listings):
    - Substance is listed.
  - TSCA (Toxic Substances Control Act):
    - Substance is not listed.
- Canadian substance listings:
  - Canadian Domestic Substances List (DSL)
    - Substance is not listed.
  - Canadian Ingredient Disclosure list (limit 0.1%)
    - Substance is not listed.
  - Canadian Ingredient Disclosure list (limit 1%)
    - Substance is not listed.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Department issuing SDS: Document Control / Regulatory
- Contact: regulatory@ultrasci.com
| Date of the latest revision of the safety data sheet | 03/24/2019 / 1 |
| Abbreviations and acronyms: |  |
| IMDG: International Maritime Code for Dangerous Goods |  |
| DOT: US Department of Transportation |  |
| IATA: International Air Transport Association |  |
| EINECS: European Inventory of Existing Commercial Chemical Substances |  |
| CAS: Chemical Abstracts Service (division of the American Chemical Society) |  |
| NFPA: National Fire Protection Association (USA) |  |
| HMIS: Hazardous Materials Identification System (USA) |  |
| LC50: Lethal concentration, 50 percent |  |
| LD50: Lethal dose, 50 percent |  |
| PBT: Persistent, Bioaccumulative and Toxic |  |
| vPvB: very Persistent and very Bioaccumulative |  |
| * Data compared to the previous version altered. |  |