1 Identification

- **Product identifier**
- **Trade name:** Captan
- **Part number:** PST-090, PST-090-10MG, PST-090-25MG, PST-090-50MG
- **CAS Number:** 133-06-2
- **EC number:** 205-087-0
- **Index number:** 613-044-00-6
- **Relevant identified uses of the substance or mixture and uses advised against**
  Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Agilent Technologies Australia Pty Ltd
    679 Springvale Road
    Mulgrave
    Victoria 3170, Australia
  - **Further information obtainable from:**
    Telephone: 1800 802 402
    e-mail: pdl-msds_author@agilent.com
  - **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**

  ![skull and crossbones]
  Acute Tox. 3 H331 Toxic if inhaled.

  ![health hazard]
  Carc. 2 H351 Suspected of causing cancer.

  ![corrosion]
  Eye Dam. 1 H318 Causes serious eye damage.

  ![skin sens]
  Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements**
  The substance is classified and labelled according to the Globally Harmonised System (GHS).  (Contd. on page 2)
Trade name: Captan

- **Hazard pictograms**
  - GHS05
  - GHS06
  - GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - captan (ISO)

- **Hazard statements**
  - Toxic if inhaled.
  - Causes serious eye damage.
  - May cause an allergic skin reaction.
  - Suspected of causing cancer.

- **Precautionary statements**
  - If medical advice is needed, have product container or label at hand.
  - Keep out of reach of children.
  - Read label before use.
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Use only outdoors or in a well-ventilated area.
  - Contaminated work clothing should not be allowed out of the workplace.
  - Wear protective gloves / eye protection / face protection.
  - Use personal protective equipment as required.
  - IF ON SKIN: Wash with plenty of water.
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  - Continue rinsing.
  - Immediately call a POISON CENTER/doctor.
  - IF exposed or concerned: Get medical advice/attention.
  - Specific treatment (see on this label).
  - IF skin irritation or rash occurs: Get medical advice/attention.
  - Wash contaminated clothing before reuse.
  - 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.

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

- **Chemical characterisation: Substances**
- **CAS No. Description**
  - 133-06-2 captan (ISO)
- **Identification number(s)**
- **EC number:** 205-087-0
4 First Aid Measures

· **Description of first aid measures**
· **General information:**
  Immediately remove any clothing soiled by the product.
  Remove breathing equipment only after contaminated clothing have been completely removed.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
  Supply fresh air or oxygen; call for doctor.
  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. Then consult a doctor.
· **After swallowing:**
  If symptoms persist consult doctor.
· **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 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
  Use neutralising agent.
  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.
  - Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **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 container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

<table>
<thead>
<tr>
<th>133-06-2 captan (ISO)</th>
<th>NES</th>
<th>Long-term value: 0.5 mg/m³ Sk, Sen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WES</td>
<td>Long-term value: 0.5 mg/m³ Sk, Sen</td>
</tr>
</tbody>
</table>

- **Additional information:** The lists valid during the making 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.
  - Store protective clothing separately.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- **Respiratory protection:**
  - 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 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
Trade name: Captan

- **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:** Solid
    - **Colour:** Not determined.
    - **Odour:** Like rotten eggs (mercaptans)
    - **Odour threshold:** Not determined.
  - **pH-value:** Not applicable.
  - **Change in condition**
    - **Melting point/freezing point:** 178 °C
    - **Initial boiling point and boiling range:** Undetermined.
  - **Flash point:** Not applicable.
  - **Flammability (solid, gas):** Product is not flammable.
  - **Decomposition temperature:** Not determined.
  - **Auto-ignition temperature:** Not determined.
  - **Explosion properties:** Product does not present an explosion hazard.
  - **Explosion limits:**
    - **Lower:** Not determined.
    - **Upper:** Not determined.
  - **Vapour pressure at 20 °C:** 0.00012 hPa
  - **Density at 20 °C:** 1.74 g/cm³
  - **Relative density**
    - Not determined.
  - **Vapour density**
    - Not applicable.
  - **Evaporation rate**
    - Not applicable.
  - **Solubility in / Miscibility with water at 20 °C:** <0.00002 g/l
  - **Partition coefficient: n-octanol/water:** Not determined.
Trade name: Captan

- **Viscosity:**
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- **Solvent content:**
  - VOC (EC): 0.00 %

- **Solids content:**
  - 100.0 %

- **Other information:**
  - No further relevant information available.

10 Stability and Reactivity

- **Reactivity**
  - No further relevant information available.

- **Chemical stability**
  - **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**

  **ATE (Acute Toxicity Estimates)**
  - **Inhalative LC50/4 h:** 0.5 mg/L

  **133-06-2 captan (ISO)**
  - **Oral LD50:** 9,000 mg/kg (rat)
  - **Dermal LD50:** >5,000 mg/kg (rat)

  - **Primary irritant effect:**
    - **Skin corrosion/irritation:** No irritant effect.
    - **Serious eye damage/irritation:** Strong irritant with the danger of severe eye injury.
    - **Respiratory or skin sensitisation:** Sensitisation possible through skin contact.
    - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** Carc. 2

12 Ecological Information

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
  - **Persistence and degradability:** No further relevant information available.

- **Behaviour in environmental systems:**
  - **Bioaccumulative potential:** No further relevant information available.
  - **Mobility in soil:** No further relevant information available.
48.1.26

Additional ecological information:

- General notes:
  Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
  Must not reach sewage water or drainage ditch undiluted or unneutralised.
  Danger to drinking water if even 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 together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packaging:
  Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - ADG, IMDG, IATA
    UN3077

- UN proper shipping name
  - ADG
    3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (captan (ISO))
  - IMDG, IATA
    ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (captan (ISO))

- Transport hazard class(es)
  - ADG, IATA
    Class: 9
    Label: 9

- IMDG
  Class: 9
  Label: 9

- Packing group
  - ADG, IMDG, IATA
    III
### Environmental hazards:
- Special marking (ADG): Symbol (fish and tree)
- Special marking (IATA): Symbol (fish and tree)

### Special precautions for user
- Warning: Miscellaneous dangerous substances and articles.
- Danger code (Kemler): 90
- EMS Number: F-A,S-F
- Stowage Category: A
- Stowage Code: SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

### Transport in bulk according to Annex II of Marpol and the IBC Code
- Transport category: 3

### Transport/Additional information:
- ADG
  - 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
- 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 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CAPTAN (ISO)), 9, III

### 15 Regulatory information
- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Australian Inventory of Chemical Substances
    - Substance is listed.
  - Standard for the Uniform Scheduling of Medicines and Poisons
    - S6

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- Seveso category
  - H2 ACUTE TOXIC
  - E1 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements: 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements: 200 t
- 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
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 3: Acute toxicity – Category 3
  - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Carc. 2: Carcinogenicity – Category 2

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**Trade name: Captan**