1 Identification

· Product identifier

· Trade name: Custom Standard (1X10 mL)

· Part number: CUS-22239-1

· CAS Number: 540-84-1

· EC number: 208-759-1

· Index number: 601-009-00-8

· 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

  GHS02 Flame
  Flammable Liquids - Category 2

  GHS08 Health hazard
  Aspiration Hazard - Category 1

  GHS07
  Skin Irritation - Category 2
  Specific Target Organ Toxicity - Single Exposure - Category 3

· Label elements

  · GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

  GHS02  GHS07  GHS08

(Contd. on page 2)
Trade name: Custom Standard (1X10 mL)

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  2,2,4-trimethylpentane

- **Hazard statements**
  Highly flammable liquid and vapour.
  Causes skin irritation.
  May cause drowsiness or dizziness.
  May be fatal if swallowed and enters airways.

- **Precautionary statements**
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  Ground and bond container and receiving equipment.
  Use explosion-proof [electrical/ventilating/lighting] equipment.
  Use non-sparking tools.
  Take actions to prevent static discharges.
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.
  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).
  Do NOT induce vomiting.
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  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.
  In case of fire: Use for extinction: CO2, powder or water spray.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 1
    - Fire = 3
    - Reactivity = 0

  - **HMIS-ratings (scale 0 - 4)**
    - Health = 1
    - Fire = 3
    - Reactivity = 0
3 Composition/Information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  540-84-1 2,2,4-trimethylpentane
- Identification number(s)
- EC number: 208-759-1
- Index number: 601-009-00-8

4 First aid measures

- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- 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.
- 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 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- 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
  Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). 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.

(Contd. on page 4)
7 Handling and storage

· Handling:
  · Precautions for safe handling
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of aerosols.
  · Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
  · Conditions for safe storage, including any incompatibilities
  · Storage:
    · Requirements to be met by storerooms and receptacles: Store in a cool location.
    · Information about storage in one common storage facility: Not required.
    · Further information about storage conditions:
      Keep receptacle tightly sealed.
      Store in cool, dry conditions in well sealed receptacles.
  · Specific end use(s) No further relevant information available.

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 skin.
    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.
9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - **Form:** Fluid
    - **Color:** Colorless
  - **Odor:** Nearly odorless
  - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** -107 °C
  - **Boiling point/Boiling range:** 99 °C

- **Flash point:** -12 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 410 °C

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**
  - **Lower:** 1.1 Vol %
  - **Upper:** 6 Vol %

- **Vapor pressure at 20 °C:** 41.25 hPa

- **Density at 20 °C:** 0.692 g/cm³

- **Relative density**

- **Vapor density**

- **Evaporation rate**

- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**
  - **Dynamic at 20 °C:** 0.51 mPas
  - **Kinematic:** Not determined.
Trade name: Custom Standard (1X10 mL)

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability: No decomposition if used according to specifications.
- Thermal decomposition / conditions to be avoided: No further relevant information available.
- 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)
      - Dermal LD50: >2,000 mg/kg (rabbit)
      - Inhalative LC50/4 h: >33.5 mg/L (rat)
    - 540-84-1, 2,2,4-trimethylpentane
      - Oral LD50: >5,000 mg/kg (rat)
      - Dermal LD50: >2,000 mg/kg (rabbit)
      - Inhalative LC50/4 h: >33.52 mg/L (rat)
- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - Substance is not listed.
  - 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.
Trade name: Custom Standard (1X10 mL)

- Additional ecological information:
  - General notes:
    Water hazard class 2 (Assessment by list): hazardous for water
    Do not allow product to reach ground water, water course or sewage system.
    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 of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, TDG, IMDG, IATA: UN1262
- UN proper shipping name
  - DOT: Octanes
  - TDG: 1262 OCTANES, ENVIRONMENTALLY HAZARDOUS
  - IMDG, IATA: OCTANES
- Transport hazard class(es)
  - DOT, IMDG, IATA
    - Class: 3 Flammable liquids
    - Label: 3
    - TDG (Transport dangerous goods):
      - Class: 3 Flammable liquids
      - Label: 3
    - Packing group
      - DOT, TDG, IMDG, IATA: II
    - Environmental hazards:
      - Special marking (TDG): Symbol (fish and tree)
## 48.1.26 Special precautions for user

- **Warning:** Flammable liquids

### Danger code (Kemler):
- 33

### EMS Number:
- 3-07

### Stowage Category
- B

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
- Not applicable.

### Transport/Additional information:

- **DOT**
  - **Quantity limitations**
    - On passenger aircraft/rail: 5 L
    - On cargo aircraft only: 60 L
  - **Hazardous substance:**
    - 1000 lbs, 454 kg

#### TDG
- **Exceptional quantities (EQ)**
  - Code: E2
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 500 ml

#### IMDG
- **Limited quantities (LQ):**
  - 1L
- **Exceptional quantities (EQ):**
  - Code: E2
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":**
  - UN 1262 OCTANES, 3, II, 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 not listed.
  - **TSCA (Toxic Substances Control Act):**
    - Substance is listed.

### Canadian substance listings:

- **Canadian Domestic Substances List (DSL)**
  - Substance is 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.

· Date of the latest revision of the safety data sheet 04/11/2019 / -

· 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