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**eSensor<sup>®</sup> XT-8 Reagent Pack**  
**Material Safety Data Sheet (MSDS)**

MSDS Prepared on: 04 Oct 2013  
Company: GenMark Diagnostics, Inc. (GenMark Dx)  
Address: 5964 La Place Court  
City: Carlsbad  
State: CA  
Zip Code: 92008  
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(760) 448-4300  
Company Emergency Phone: (760) 448-4300  
CHEMTREC: 1-800-424-9300

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**SECTION 1: CHEMICAL IDENTIFICATION**

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Name: **eSensor<sup>®</sup> XT-8 Reagent Pack**  
Proprietary: Yes  
Applicable GenMark Dx Products include:

- eSensor<sup>®</sup> CF Genotyping Test
- eSensor<sup>®</sup> Warfarin Sensitivity Test
- eSensor<sup>®</sup> Thrombophilia Risk Test
- eSensor<sup>®</sup> Respiratory Viral Panel
- eSensor<sup>®</sup> 2C19 Genotyping Test
- eSensor<sup>®</sup> HCV Genotyping Test
- eSensor<sup>®</sup> HCVg *Direct* Test
- eSensor<sup>®</sup> 3A4/3A5 Genotyping Test

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**SECTION 2: HAZARDOUS INGREDIENTS**

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**Component 1: PCR Mix**

<u>Hazardous Ingredients:</u>	CAS #:
Tris EDTA (Ethylenediamine Tetra-acetic Acid)	60-00-4
Magnesium Chloride	7786-30-3
Ammonium Sulfate	7783-20-2

**Component 2: Taq Polymerase or RVP Enzyme Mix** (eSensor<sup>®</sup> Respiratory Viral Panel only) **or HCVg *Direct* Enzyme Mix** (eSensor HCVg *Direct* Test only)

<u>Hazardous Ingredients:</u>	CAS #:
Glycerol, 50%	56-81-5

**Component 4: MS2 Internal Control** (eSensor<sup>®</sup> Respiratory Viral Panel only)

Hazardous Ingredients: None



**Component 5: Amplicon Dilution Solution (ADS)** (eSensor<sup>®</sup> HCV Genotyping Test only)

Hazardous Ingredients: CAS #:  
Sodium Azide 26628-22-8

**Component 6: Exonuclease**

Hazardous Ingredients: CAS #:  
Glycerol, 50% 56-81-5

**Component 7: eSensor<sup>®</sup> Test Signal Buffer**

Hazardous Ingredients: CAS #:  
Guanidine Hydrochloride 50-01-1  
Ethyl Alcohol 64-17-5

**Component 8: Buffer-1**

Hazardous Ingredients: None

**Component 9: Buffer-2**

Hazardous Ingredients: CAS #:  
Sodium Perchlorate 7601-89-0

**\*Kit components contain unlisted proprietary ingredients which are non-hazardous\***

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**SECTION 3: HAZARDS IDENTIFICATION**

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**CAUTION! CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.  
HARMFUL IF SWALLOWED OR INHALED. OXIDIZING LIQUIDS.**

HEALTH RATING: 1 – Slight

FLAMMABILITY RATING: 1 – Slight

REACTIVITY RATING: 1 – Slight

CONTACT RATING: 2 – Moderate

SKIN CONTACT: Causes irritation, redness, and minor pain upon repeated skin exposure.

EYE CONTACT: Causes irritation, redness and pain to the eyes.

INHALATION: Causes mucous membrane and respiratory tract irritation.

INGESTION: Causes gastro-intestinal tract irritation, nausea, vomiting, diarrhea, and CNS depression.

CHRONIC EXPOSURE: Target organs: skin, eyes and kidneys. Material may aggravate pre-existing skin disorders.



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**SECTION 4: FIRST AID MEASURES**

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- SKIN CONTACT:** Immediately flush exposed skin with potable water for at least **15 minutes** while removing contaminated clothing. Seek medical attention if irritation develops. Wash contaminated clothing before use.
- EYE CONTACT:** Immediately flush the eyes with potable water for at least **15 minutes**. Seek medical attention immediately.
- INHALATION:** Remove to fresh air. If victim is not breathing, give artificial respiration. If breathing is difficult, seek medical attention.
- INGESTION:** Get medical attention immediately. Induce vomiting immediately as directed by a physician. If vomiting occurs naturally, wash out mouth of the conscious victim.

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**SECTION 5: FIRE AND EXPLOSION CONTROL MEASURES**

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- FIRE:** Materials are not considered to be a fire hazard. Liquid dries to leave a residue that may support a fire when combined with combustible materials and reducing agents. Material will emit hazardous fumes under fire conditions.
- EXPLOSION:** Not considered to be an explosion hazard.
- EXTINGUISHING MEDIA:** Water, CO<sub>2</sub>, Dry chemical, Foam.
- SPECIAL INFORMATION:** Wear a National Institute for Occupational Safety and Health (NIOSH) approved self contained breathing apparatus with a full face piece operated in the pressure demand mode, along with the appropriate protective clothing.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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Ventilate the area of the leak or spill. Wear the appropriate personal protective equipment as specified in section 8. Contain the spill. Absorb spilled liquids with an inert absorbing material and place in the appropriate waste container. See section 13 for disposal considerations.

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**SECTION 7: HANDLING AND STORAGE**

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Store frozen components away from sources of ignition and combustible/flammable materials. Protect from physical damage. Handle using recommended protective equipment.



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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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ACGIH/OSHA  
PERMISSIBLE  
EXPOSURE  
LIMITS:

Not established.

RESPIRATORY  
PROTECTION:

Respiratory protection is not needed with normal use and storage.

VENTILATION:

Normal laboratory Heating, Ventilating and Air Conditioning (HVAC) systems are considered adequate ventilation for normal use.

PROTECTIVE GLOVES:

Protective gloves such as nitrile or latex.

EYE PROTECTION:

American National Safety Institute (ANSI) approved safety glasses. If splashing or spraying liquids are anticipated, ANSI approved chemical splash goggles are recommended.

OTHER PROTECTIVE  
EQUIPMENT:

An emergency eyewash and safety shower should be available.

HYGIENIC PRACTICES:

Wash hands thoroughly with soap and water after handling materials. Launder contaminated clothing prior to re-use.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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**COMPONENT 1: PCR mix**

ODOR: Odorless  
APPEARANCE: Clear liquid  
pH: 8.0  
M.P: >-20°C  
DENSITY: 1.0 g/mL

**COMPONENT 2: RVP PCR mix (eSensor<sup>®</sup> Respiratory  
Viral Panel only)**

ODOR: Odorless  
APPEARANCE: Clear viscous liquid  
pH: 8.7  
M.P: >-20°C  
DENSITY: 1.0 g/mL

**COMPONENT 3: Taq Polymerase**

ODOR: Odorless  
APPEARANCE: Clear viscous liquid  
pH: 5.5 to 8.0  
M.P: <-20°C  
DENSITY: 3.1 g/mL

**COMPONENT 4: HCVg *Direct* Test Enzyme Mix  
(eSensor HCVg *Direct* Test only)**

ODOR: Odorless  
APPEARANCE: Clear viscous liquid  
pH: 5.5 to 8.0  
M.P: <-20°C  
DENSITY: 3.1 g/mL



**COMPONENT 5: RVP Enzyme mix** (eSensor<sup>®</sup> Respiratory Viral Panel only)  
ODOR: Odorless  
APPEARANCE: Clear viscous liquid  
pH: 9.0  
M.P: <-20°C  
DENSITY: 3.1 g/mL

**COMPONENT 6: MS2 Internal Control** (eSensor<sup>®</sup> Respiratory Viral Panel only)  
ODOR: Odorless  
APPEARANCE: Clear liquid  
pH: 7.0 to 8.0  
M.P: N/A  
DENSITY: unknown

**COMPONENT 7: Amplicon Dilution Solution (ADS)** (eSensor<sup>®</sup> HCV Genotyping Test only)  
ODOR: Odorless  
APPEARANCE: Clear liquid  
pH: 6.0 to 8.0  
M.P: Unknown  
DENSITY: 1.0 g/mL

**COMPONENT 8: Exonuclease**  
ODOR: Odorless  
APPEARANCE: Clear viscous liquid  
pH: 5.5 to 8.0  
M.P: <-20°C  
DENSITY: 3.1 g/mL

**COMPONENT 9: Signal Buffer**  
ODOR: Pungent  
APPEARANCE: Clear liquid  
pH: 8.7  
M.P: >-20°C  
DENSITY: 1.0 g/mL

**COMPONENT 10: Buffer-1**  
ODOR: Odorless  
APPEARANCE: Amber liquid  
pH: 7.1  
M.P: >-20°C  
DENSITY: Unknown

**COMPONENT 11: Buffer-2**  
ODOR: Odorless  
APPEARANCE: Clear liquid  
pH: Unknown  
M.P: >-20°C  
DENSITY: 1.4 g/mL

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**SECTION 10: STABILITY AND REACTIVITY**

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STABILITY: Stable under normal conditions of use and storage.

INCOMPATIBILITIES: Strong acids, reducing agents, organic materials, finely powdered materials, Furan 2-Peroxy-carboxylic acid.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Chlorine gas, Hydrochloric acid vapor.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Heat, fire, incompatibles.



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**SECTION 11: TOXICOLOGICAL INFORMATION**

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Data not available.

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**SECTION 12: ECOLOGICAL INFORMATION**

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Data not available.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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Waste materials should be disposed of as hazardous waste. Waste should be segregated with compatible waste streams. Do not dispose of in municipal waste. Contact a licensed hazardous waste transportation and disposal service to safely and legally dispose of this material. Waste must be classified and disposed of in accordance with all Federal, State and local environmental regulations.

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**SECTION 14: TRANSPORTATION INFORMATION**

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Not regulated. This product does not contain hazardous compounds in quantities that require special handling precautions.

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**SECTION 15: REGULATORY INFORMATION**

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Data not available.

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**SECTION 16: OTHER INFORMATION**

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The above information is believed to be accurate and represents the best information currently available to GenMark Diagnostics, Inc. However, we make no warranty, express or implied, with respect to such information and we assume no liability as a result of its use. Users should make their own investigation to determine the suitability of this information for their particular purposes. GenMark Diagnostics, Inc. shall not be held liable for any damage or losses resulting from the use of or contact with this product.

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