Safety Data Sheet

EXEMPT

Product Name: **Recombinant Human Active Raf-1 (Y340E Y341E, 306-end), CF**

Reviewed on: **9 May 2012**

1. Product Information

- **Other means of identification: Catalog Number: 4540-KS**
- **GHS product identifier: Recombinant Human Active Raf-1 (Y340E Y341E, 306-end), CF**
- **Application of the substance / the preparation:** For Research Use Only
- **Manufacturer/Supplier:**
  R&D Systems Inc.
  614 McKinley Place N.E.
  Minneapolis, MN 55413
  USA
  1-800-343-7475
- **Emergency information:** In case of a chemical emergency, spill, fire, or exposure, call R&D Systems at (612) 379-2956 or (800)-343-7475. In Europe call +44(0)1235-529449.

2. Hazards Identification:

- **Classification:** This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC or 1272/2008.
- **Label Elements:** The product does not need to be labeled in accordance with EC directives or respective national laws.
- **Special Hazards:** None

3. Information on Ingredients:

- **Substances:** This product does not contain hazardous chemicals at concentrations of 1% or greater. Additionally, this product is not known to contain carcinogens at concentrations of 0.1% or greater. As a result, a Material Safety Data Sheet is not required for this product.

4. First Aid Measures:

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact**: Immediately wash with water and soap and rinse thoroughly. Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Rinse mouth with water. Seek medical attention and appropriate follow-up.

5. Fire Fighting Measures:

- **Suitable extinguishing agents:** The product is non-flammable. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- **Protective equipment:** Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. Accidental Release Measures:

- **Person-related safety precautions:** Use standard laboratory practices including proper personal protective equipment.
- **Measures for environmental protection:** Do not let product enter drains.
- **Measures for containment and cleaning:**
  -Absorb liquid components with liquid-binding material.
  -Pick up mechanically.
  -Dispose contaminated material as waste according to item 13.
- **Additional information:** None.

7. Handling and Storage:

- **Precautions for safe handling:** No special measures required. No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage:** Store according to product specifications.

8. Exposure Controls and Personal Protection:

- **Control parameters:** None known. Contains no substances with occupational exposure limits.
- **Appropriate engineering controls:** Follow usual standard laboratory practices. Use appropriate chemical resistant gloves, appropriate safety glasses and wear protective work clothing.

9. Physical and Chemical Properties:

- **Appearance:** Lyophilized white powder or clear liquid.
- **Odor:** Little to none
- **Odor threshold:** Not available
- **pH:** Not available
- **Melting point/freezing point:** Not available.
- **Boiling point/Boiling range:** Not available.
- **Flash point:** Not available.
- **Evaporation rate:** Undetermined.
- **Flammability:** Not available.

Upper/lower flammability or explosive limits: Not available.
Vapor pressure/density: Not available.
Relative Density: Not available.
Solubility in/Miscibility with Water: Not available.
Partition coefficient: noctanol/water: Not available
Auto igniting: Product is not self igniting.
Decomposition temperature: Not available.
Viscosity: Not available.

10. Stability and Reactivity:

- **Reactivity:** Stable under recommended transport and storage conditions.
- **Chemical Stability:** Stable under recommended storage and handling temperatures.
- **Possible hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.
- **Incompatible materials to be avoided:** Heat and moisture.
- **Incompatible materials:** Strong acids/alkalis, strong oxidizing/reducing agents.
- **Hazardous decomposition products:** In combustion may emit toxic fumes. No known decomposition information.

11. Toxicological Information:

- **Acute toxicity:** Classification criteria are not met based on available data.
- **Skin irritant effect:** Classification criteria are not met based on available data.
- **Eye irritant effect:** Classification criteria are not met based on available data.
- **Sensitization:** Classification criteria are not met based on available data.
- **Mutagenicity:** Classification criteria are not met based on available data.
- **Carcinogenicity:** Classification criteria are not met based on available data.
- **Reproductive toxicity:** Classification criteria are not met based on available data.
- **Additional toxicological information:** When used and handled according to specifications, the product does not have any harmful effects according to available information.

12. Ecological Information:

- **Ecotoxicity:** Undetermined.
- **Biodegradability:** Undetermined.
- **Mobility:** Undetermined.

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13. Disposal Considerations:

- **Disposal methods:** Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Contaminated packaging:** Dispose in the same manner as unused product.
- **Special precautions:** Dispose of small amounts of spilled material as described in section 6. Large spills must be dealt with separately by qualified disposal personnel. Avoid dispersal of spilt material to soil, waterways, drains and sewers.

14. Transport Information:

- **UN Number:** Does not meet the criteria for classification as hazardous for transport.
- **DOT regulations:** ·**Hazard class:** None
- **Land transport ADR/RID (cross-border):** Not regulated.
- **Maritime transport IMDG**: Not regulated.
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:** Not regulated.
- **Transport/Additional information:** Not dangerous according to the above specifications.

15. Regulations:

- **US Federal and State Regulations**
  TSCA (Toxic Substances Control Act): This product is not listed.
  SARA 313: This product is not listed.
  SARA 311/312 Hazards: None known.
  CERCLA Reportable Quantity: Unknown
  California Proposition 65: This product is not listed on California's listing of known or potential carcinogens.

16. Other Information:

- **Notice to reader:** To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.