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| REVIEWED ON: | Nov-1 2018 |
| PRODUCT NAME: | KARS Human |
| PRODUCT DESCRIPTION: | Lysyl-tRNA Synthetase Human Recombinant |
| SKU: | ENZ-161 |
| PHYSICAL APPEARANCE: | Liquid |

1. Usage and Company Information:

Application of the Protein: For Research Use Only

Supplier of SDS: ProSpec-Tany TechnoGene Ltd.

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Rehovot 7670308

Israel

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Emergency Information: Please call ProSpec-Tany TechnoGene Ltd at 1-866-245-0885

2. Hazards Identification:

Classification: This substance does not meet the classification criteria to be listed as a hazardous material according to the **Regulation (EC) No. 1272/2008 (CLP/EU-GHS), 29 CFR 1910.1200 (OSHA):**

Liquid.

Labeling: Does not need to be labeled in accordance with EC directives or respective national laws.

3. Information on Ingredients:

Description: This product does not contain hazardous chemicals or carcinogens at concentrations of greater than 1%.

4. 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. Consult a doctor.

After swallowing: Rinse mouth with water. Seek medical attention and appropriate follow-up.

5. Fire Fighting Measures:

Suitable extinguishing agents: Use water spray or extinguishing measure that is appropriate to local circumstances and the surrounding environment.

Hazards from the substance or mixture: Not available.

Special precautions for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Other information: This product does not burn.

6. Accidental Release Measures:

Person-related safety precautions: Use standard laboratory practices and appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Measures for environmental protection: Keep away from drains.

Measures for containment and cleaning: Soak up with inert absorbent material and dispose of as per section 13. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Precautions for safe handling: Avoid inhalation of vapor or mist. Avoid contact with eyes and skin. No special precautions are necessary if used appropriately.

Conditions for safe storage: Store in a cool, dry place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in incompatible containers.

8. Exposure Controls and Personal Protection:

Control Parameters: Contains no substances with occupational exposure limit values.

Engineering Controls: Ensure adequate ventilation. Use appropriate personal protective work clothing. Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

Eye/face protection: Wear approved safety goggles.

Skin/hand protection: Handle with protective gloves, plastic or rubber. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Wear suitable protective clothing as protection against splashing or contamination.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: In case of inadequate ventilation, use a suitable respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and Chemical Properties:

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| Appearance: Liquid | Upper/lower flammability or explosive limits: Not available. |
| Odor: Little to none. | Vapor pressure/density: Not available. |
| Odor threshold: Not available. | Relative Density: Not available. |
| pH: Not available. | Solubility in/Miscibility with Water: Not available. |
| Melting point/freezing point: Not available. | Partition coefficient: noctanol/water: Not available |
| Boiling point/Boiling range: Not available. | Auto igniting: Product is not self igniting. |
| Flash point: Not available. | Decomposition temperature: Not available. |
| Evaporation rate: Not available. | Viscosity: Not available. |
| Flammability: 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: Not available.

Skin corrosion/irritation: Not available.

Serious eye damage/irritation: Not available.

Respiratory or skin sensitization: Not available.

Germ cell mutagenicity: Not available.

Carcinogenicity: IARC: Not available.

Reproductive toxicity: Not available.

Specific target organ toxicity (STOT): Not available.

Specific target organ toxicity (STOT) - repeated exposure: Not available.

Aspiration hazard: Not available.

Information on likely routes of exposure: Routes of entry anticipated; oral, dermal, inhalation.

Short term exposure / Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term (chronic) exposure: Potential immediate effects: Not available.

Potential delayed effects: Not available.

Numerical measures of toxicity: Not available.

Other Information: Not available.

12. Ecological Information:

Ecotoxicity: Not available.

Biodegradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Not available.

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 spill material to soil, waterways, drains and sewers.

14. Transportation Information:

ADR/RID ADN/ADNR IMDG IATA/DOT: Non-hazardous for transport.

UN-Number/ UN proper shipping / Transport hazard class/ Packaging group/ Environmental/ Special precautions for users: Does not meet the criteria for classification as hazardous for transport.

15. Regulations:

US Federal and State Regulations

TSCA (Toxic Substances Control Act): Not applicable.

SARA 313: Not applicable.

SARA 311/312 Hazards: Not applicable.

CERCLA Reportable Quantity: Not applicable.

California Proposition 65: Not applicable.

European Union: This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

16. Other Information:

Notice to reader: ProSpec-Tany TechnoGene Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product. ProSpec-Tany TechnoGene Ltd. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein.

This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists. End of safety data sheet.

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.