# MATERIAL SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

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|---|---|
| **Product name:** | Recombinant Human HRAS/GTPase Hras Protein (His Tag) |
| **Catalog Number:** | PKSH030919 |
| **Application:** | For research use only |

## SECTION 2 HAZARDS IDENTIFICATION

**Hazards Identification:**

According to GHS

Physical hazards: Not Hazardous

Health hazards: Not Hazardous

Environmental hazards: Not Hazardous

## SECTION 3 INFORMATION ON INGREDIENTS

The product contains no substances which at their given concentration, are considered to be hazardous to health.

## SECTION 4 FIRST-AID MEASURES

Classification according to GHS

**4.1 General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**4.2 If inhaled**

If breathed in, move person into fresh air.If not breathing, give artificial respiration. Consult a physician.

**4.3 In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**4.4 In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**4.5 If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## SECTION 5 FIRE FIGHTING MEASURES

**5.1 Suitable extinguishing media**

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.

For small fires, use media such as “alcohol” foam, dry chemical or carbon dioxide.

For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

**5.2 Special precautions for fire-fighters**

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**5.3 Special hazards arising from the substance or mixture**

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**6.1 Person-related safety precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**6.2 Measures for environmental protection**

Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into the environment must be avoided.

**6.3 Measures for containment and cleaning**

Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## SECTION 7 HANDLING AND STORAGE

**7.1 Handling**

Wear appropriate protective clothing and safety gloves.

Avoid inhalation.

Avoid contact with eyes, skin and clothing.

Mechanical exhaust required.

Keep away from ignition sources, heat and flame.

No smoking at working site.

Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.

Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

**7.2 Storage**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Keep away from heat, sparks and flame.

Keep away from sources of ignition.

Incompatible: Strong oxidizing agents, Strong acids.

Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

## SECTION 8 EXPOSURE CONTROL/PPE

**8.1 Engineering Controls**

Mechanical exhaust required. Safety shower and eye bath.

**8.2 Personal Protective Equipment**

Respiratory: Government approved respirator if needed.

Eye/face: Chemical safety goggles if needed.

Clothing: Wear appropriate protective clothing.

Hand/skin: Protective gloves. Gloves must be inspected prior to use. 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 according to the concentration and amount of the substance at the workplace.

**8.3 Other Protect**

No smoking, drinking and eating at working site. Wash thoroughly after handling.

## SECTION 9 PHYSICAL/CHEMIICAL PROPERTIES

Appearance: No data available

Odour: No data available

Odour threshold: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapour pressure: No data available

Vapour density: No data available

Relative density: No data available

Water solubility: No data available

Partition coefficient: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

## SECTION 10 STABILITY AND REACTIVITY

**10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

Heat, flames and sparks

**10.5 Incompatible materials**

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

**10.6 Hazardous decomposition products**

Other decomposition products: No data available

Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Acute toxicity:**

There is no evidence available indicating acute toxicity.

## SECTION 12 ECOLOGICAL INFORMATION

**Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

## SECTION 13 DISPOSAL CONSIDERATION

**13.1 Disposal methods**

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**13.2 Contaminated packaging**

Dispose in the same manner as unused product.

## SECTION 14 TRANSPORT INFORMATION

**RID/ADR:** Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

**IATA:** Non-Hazardous for Air Transport.

**IMO:** Non-Hazardous for Sea Transport.

## SECTION 15 REGULATORY INFORMATION

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

## SECTION 16 OTHER INFORMATION

**IMPORTANT! Read the safety data sheets before the use and disposal of this product. Insure that this information is understood by the operators exposed to this product. Use this product for the intended purpose as indicated in the instruction manual.**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from this use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.