MATERIAL SAFETY DATA SHEET

Uricase Ex. Candida utilis

Section 1: Product and Company Identification

Material name	Uricase Ex. Candida utilis
CAS #	Mixture
Product No.	70-1711-00; 70-1711-01
Product description	Lyophilized powder containing enzyme (protein) and buffering salt.
Product use	Enzyme reagent for laboratory or in vitro diagnostic manufacturing use.

Emergency Telephone Numbers
Americas: +1-760-476-3962
Europe, Middle East
& Africa: +1-760-476-3961
Asia Pacific: +1-760-476-3960
Access code: 333512

Manufacturer/Distributor
Sekisui Diagnostics (UK) Ltd
50 Gibson Drive
Kings Hill, West Malling
Kent ME19 4AF UK
Phone: 44 (0) 1732 220022

Corporate Headquarters/Distributor
Sekisui Diagnostics LLC
31 New York Avenue
Framingham, MA 01701
USA
Phone: 508-661-1835

Section 2: Hazards Identification

OSHA regulatory status
This mixture is classified as hazardous according to the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Precautionary statements
DANGER! The chemical, physical and toxicological properties of this mixture have not been thoroughly characterized. This mixture contains disodium tetraborate decahydrate, a reproductive toxicant that may damage fertility and the unborn child. The bovine serum albumin (BSA) in this product is of US origin and meets the current standards for reduction of TSE (Transmissible Spongiform Encephalopathy) risk. Avoid contact with eyes and skin. Do not ingest or inhale. Mixture appearance: white to off-white powder.

Potential health effects:

Eyes	No data available. Eye exposure may cause irritation, redness and itching.
Skin	No data available. Skin contact may cause irritation, dryness and redness.
Inhalation	No data available. Although there is no evidence that the enzyme(s) in this mixture induces specific respiratory hypersensitivity, all proteins are potential respiratory allergens and may result in respiratory sensitization in certain individuals after repeated and/or prolonged inhalation exposure, producing mild to severe symptoms similar to pollen allergy or asthma, including mucous membrane or eye irritation, itching of the skin or eyes, sneezing, nasal or sinus congestion, coughing, and tightness in the chest. These symptoms may develop as late as 12 hours after exposure.
Ingestion	No data available.
Chronic effects	Prolonged or repeated exposure may cause harmful or toxic target organ effects. Repeated inhalation may result in respiratory sensitization.
Target organs	Disodium tetraborate decahydrate: Reproductive system and unborn child.

Potential environmental effects No data available.

Section 3: Composition / Information on Ingredients

Components	**CAS #**	**Percent**
Disodium tetraborate decahydrate	1303-96-4	50
Non-hazardous and other components below reportable levels		40 - 60

Section 4: First Aid Measures

First aid procedures:

Eye contact	Flush eyes with plenty of tepid water for 15 minutes while separating eyelids with fingers. Remove contact lenses if worn. Obtain medical attention if needed or if symptoms, such as redness or irritation persist.
Skin contact	In case of contact, flush skin with copious amounts of cool water and remove contaminated clothing. Obtain medical attention if needed or if irritation or other symptoms develop.
Inhalation	If inhaled, move from exposure area to fresh air. Seek medical attention if breathing becomes difficult or if cough or other symptoms develop.
Ingestion	In case of ingestion, contact a poison control center or physician for instructions.

Section 5: Fire Fighting Measures

Extinguishing media

Suitable extinguishing media	Use extinguishing media suitable for surrounding fire, such as carbon dioxide, chemical foam, dry chemical or water spray.
Unsuitable extinguishing media	Unknown.
Specific hazards	Mixture may burn when exposed to sufficient heat.
Hazardous combustion products	Irritating or highly toxic gases may be generated by combustion, including carbon monoxide (CO), carbon dioxide (CO_2) and sodium oxides.
Protection of firefighters	
Protective equipment and precautions for firefighters	Firefighters should wear NIOSH-approved or equivalent Self-Contained Breathing Apparatus and full protective gear.

Section 6: Accidental Release Measures

Personal precautions	Wear Personal Protective Equipment (PPE) as indicated in Section 8. Avoid physical contact and avoid generating or inhaling dust. Ensure adequate ventilation. After handling, immediately wash any areas of the body that may have been exposed, whether or not known skin contact has occurred.
Environmental precautions	Do not dispose down the drain.
Methods for cleaning up	Do not dry sweep powder. Use HEPA-filtered vacuum, if available, otherwise wet mop to clean up a powder spill. Decontaminate the spill site following standard procedures. Dispose of waste in accordance with all applicable federal, state, local and provincial environmental regulations, per Section 13.

Section 7: Handling and Storage

Handling	Follow good laboratory hygiene practices. See Section 8, Engineering Controls. Avoid vapor or aerosol inhalation. Minimize contact and contamination of personal clothing and skin. After handling, immediately wash any areas of the body that may have been exposed, whether or not known skin contact has occurred.
Storage	Store desiccated at -20°C (-4°F). Do not store with incompatible substances; see Section 10.

Section 8: Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	**Type**	**Value**	**Form**
Disodium tetraborate decahydrate (1303-96-4)	STEL	6 mg/m3	Inhalable fraction
	TWA	2 mg/m3	Inhalable fraction

Engineering controls	Use appropriate local exhaust ventilation. Facilities storing or using this substance/mixture should be equipped with an eyewash fountain and a safety shower.
Personal protective equipment:	
Eye / face protection	Wear appropriate protective chemical safety glasses.
Skin protection	Wear lab coat or other protective garments. Remove contaminated clothing promptly.
Hand protection	Wear chemical resistant protective gloves.
Respiratory protection	A respiratory protection program that meets U.S. Federal OSHA 29 CFR 1910.134 and ANSI Z99.2 should be followed whenever exposure limits may be exceeded (if applicable) and engineering controls are not feasible, or if insufficient ventilation or workplace conditions warrant the use of respiratory protection.
General	Follow company-specific safety procedures.

Section 9: Physical and Chemical Properties

Physical state	Solid.
Color	White to off-white powder
Odor	Not available
Odor threshold	Not available
pH	Not applicable
Melting point/Freezing point	Not available / Not applicable
Boiling point	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Flammability limits in air, lower, % by volume	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	Not available
Solubility (water)	Slightly water-soluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available

Section 10: Chemical Stability and Reactivity Information

Possibility of hazardous reactions	Hazardous polymerization will not occur.
Chemical stability	Stable under ordinary conditions of use and storage. See Section 7.
Conditions to avoid	Unknown.
Hazardous decomposition products	Thermal decomposition may lead to release of irritating gases and vapors.
Reactivity	Unknown.

Section 11: Toxicological Information

Routes of exposure	Occupational exposure routes may include eye contact, skin contact and inhalation.
Acute effects	No data available.
Toxicological data	
Components	**Test Results**
Disodium tetraborate decahydrate (1303-96-4)	Acute Dermal LD50 Rabbit: > 1055 mg/kg Acute Inhalation LC50 Rat: > 0.002 mg/l 4 Hours Acute Oral LD50 Rat: 2660 mg/kg
Chronic effects	No data available.
Carcinogenicity	No data available.
Mutagenicity	No data available.
Reproductive effects	No data available.
Teratogenicity	No data available.
Sensitization	No data available.

Section 12: Ecological Information

Ecotoxicological data	
Components	**Test Results**
Disodium tetraborate decahydrate (1303-96-4)	LC50 Western mosquitofish (Gambusia affinis): 104 mg/l 96 hours
Persistence and degradability	No data available.
Bioaccumulation	No data available.
Mobility in environmental media	No data available.

Section 13: Disposal Considerations

Disposal instructions	Dispose of unused product, spilled substance and waste in accordance with all applicable federal, state, local and provincial environmental and hazardous waste regulations.

Section 14: Transport Information

DOT

Basic shipping requirements:

UN number	3288
Proper shipping name	Toxic solid, inorganic, n.o.s. (Disodium tetraborate decahydrate)
Hazard class	6.1

DOT

Section 15: Regulatory Information

US Federal Regulations:

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

Section 16: Other Information

Further Information:

This MSDS was prepared in accordance with the hazard criteria and content requirements of the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

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