KACTUS

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Material Safety Data Sheet (MSDS)

1. IDENTIFICATION

Product Identification	
Product Name	MaxNuclease
Item Number	GMP-NUC-SE101-11/12
SDS Number	W001030112
Relevant identified uses of the substance or mixture and uses advised against	This product is not involved.
Company Identification	
Company Name	KactusBio Inc.
Address	1 Broadway, Cambridge MA, 02142
Telephone	(617) 665-7333
Email	help@kactusbio.us

2. HAZARDS IDENTIFICATION

GHS Label elements, including precautionary statements	
Classification of the substance or mixture	None
Pictogram(s)	None
Signal word	None
Dangerous ingredients marked on the label	None
Hazard Statement	None
Prevention	None
Response	None.
Storage	None
Disposal	None
Additional Information	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	**Chemical Name**
1185-53-1	Tris-HCl
7647-14-5	NaCl
56-81-5	Glycerol
7786-30-3	MgCl2
not	MaxNuclease

4. FIRST AID MEASURES

Description of first aid measures	
After inhalation	Transfer to a place with fresh air and rest.
After skin contact	Wash or shower immediately with soap and plenty of water, and seek immediate medical attention if unwell.
After eye contact	Rinse immediately with plenty of water, including under the eyelids, and seek medical attention.
After swallowing	Gargle, do not induce vomiting, if symptoms occur, seek medical attention.
Most important symptoms and effects, both acute and delayed	No data available
Indication of any immediate medical attention and special treatment needed	No data available

5. FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media	Water Foam Carbon dioxide (CO_2) Dry powder.
Unsuitable Extinguishing Media	For this substance/mixture no limitations of extinguishing agents are given.
Hazards and Advice	
Special hazards arising from the substance or mixture	Development of hazardous combustion gases or vapors possible in the event of fire.
Advice for Firefighters	In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert
Environmental precautions	Do not let product enter drains.
Methods of containment and removal of spilled chemicals and disposal materials used	As far as possible, collect the leaking liquid in a closed container, absorb it with sand, activated carbon or other inert materials, and transfer it to a safe place, and do not flush into the sewer.
Reference to other sections	For disposal see section 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling
▪ Prohibition of open flames ▪ Operators should be specially trained and strictly abide by operating procedures. ▪ Operation and disposal should be carried out in a place with local ventilation or comprehensive ventilation facilities. ▪ Avoid eye and skin contact and avoid inhalation of vapors ▪ When handling, it should be loaded and unloaded lightly to prevent damage to packaging and containers. ▪ Empty containers may leave harmful substances. ▪ Wash hands after use, and do not eat or drink in the workplace
Information on Fire and Explosion Prevention
▪ Keep away from fire and heat sources, smoking is strictly prohibited in the workplace. ▪ Use explosion-proof ventilation systems and equipment. ▪ Avoid contact with forbidden substances such as oxidants, and equip corresponding varieties and quantities of firefighting equipment and leakage emergency treatment equipment
Safe Storage Conditions such as Mixing Hazards

Storage Precautions	Requirements for warehouses and containers: Store in a cool, ventilated warehouse. Keep container tightly sealed
More information about storage conditions	Separate from oxidants, metals, food

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Method
The work site is recommended to be separated from other work sites. Strengthen ventilation and provide safe showers and eyewash equipment.
Occupational Exposure Limits
There are no known nationally prescribed exposure limits.
Biological Limits
No further information is available.
Monitoring Methods
No further information is available.
Personal Protective Equipment

Respiratory protection	Ventilation, local exhaust ventilation, or respiratory protection
Hand protection	Thermal gloves, protective clothing
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.
Skin and body protection	Wear overalls that prevent the penetration of poisons

9. PHYSICAL AND CHEMICAL PROPERTIES

Information about basic physical and chemical properties

Shape	Liquid
Color	Colorless
Smell	Odorless
Olfactory Threshold	No information
pH (at 25°C)	8.0
Melting Point	No information
Boiling Point	No information
Flash Point	No information
Flammability	No information
Decomposition Temperature	No information
Natural Temperature	No information
Danger of Explosion	No information
Explosion Limit	No information
Lower Explosion Limit	No information
Upper Explosion Limit	No information
Vapor Pressure	No information
Density (at 25°C)	No information
Relative Density	No information
Vapor Density	No information
Evaporation Rate	No information
Solubility	No information
Water	Soluble
N-octanol/water partition coefficient	No information
Viscosity	No information
Movement	No information
Kinematic	No information
Additional Information	
No other relevant information is available.	

10. STABILITY AND REACTIVITY

Dangerous Reaction	Stable if stored and used at normal ambient temperature
Stability	No data on thermal decomposition/situations to avoid
Conditions to be avoided	Electrostatic discharge, heat, moisture, etc.
Forbidden substances	strong oxidants
Dangerous decomposition products	No data

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects	
Acute Toxicity	No data available
Relevant LD/LC50 Values	CAS:1185-53-1 Tris-HCl Mouth: LD50 - rat (female) - > 5 000 mg/kg bw. Inhalation:No data available. Transdermal: LD50 - rat (male/female) - > 5 000 mg/kg bw. CAS:7647-14-5 NaCl Mouth: No data available Inhalation: no data available LD50 Percutaneous - Rabbit - > 10000 mg/kg. CAS: 56-81-5 Glycerol Mouth: LD50 Rat > 12.6 g/kg Inhalation: LC50 Rat > 570 mg/cu m/1hr Transdermal: No data available CAS:7786-30-3 Magnesium chloride

	Mouth: LD50 Rat oral 2800 mg/kg Inhalation:No data available Transdermal:No data available CAS: not MaxNuclease Mouth: No data available Inhalation: No data available Transdermal: No data available
Major Irritating Effects	No information
Additional Data (on experimental toxicity)	No further information available
Subacute to Chronic Toxicity	No further information available
Further Information on Poisons	No further information available

12. ECOLOGICAL INFORMATION

Ecotoxicity	
Aquatic Toxicity	Harmful to the aquatic environment
Persistence and Degradability	
No data available	
Bioconcentration or Bioaccumulation	
No data available	
Soil	
Soil Mobility	No data
Effects of Ecotoxicity	No data available
Evaluation Results of PBT (residue, bioconcentrate, toxic substances) and vPvB (high residue, high bioconcentration substances)	
The PBT/vPvB assessment is not available as the chemical safety assessment is not required/carried out.	
PBT (residue, bioconcentrate, toxic)	N/A
Other Side Effects	
The evaporation of substances can reach the concentration of particulate pollution in the air.	

13. DISPOSAL CONSIDERATIONS

Disposal Methods and Precautions
Recycle as much as possible. If it cannot be recycled, use incineration method for disposal. This product shall not be disposed of by discharging it to the sewer
Recommendation
Return the container to the manufacturer or dispose of it in accordance with national and local regulations.

14. TRANSPORT INFORMATION

UN Dangerous Goods Number (UN Number), ADR, ADN, IMDG, IATA	Void
UN Appropriate Shipping Names ADR, ADN, IMDG, IATA	Void
UN Transport Hazard Classification ADR, ADN, IMDG, IATA	Void
Packaging Categories ADR, IMDG, IATA	Void
Harm to the Environment Marine Pollutants	Void
Special User Precautions	N/A
Annex 2 of MARPOL73/78 (Pact for the Prevention of Marine Pollution Caused by Ships) and bulk shipments under IBCCode (International Cargo Code)	No provision is made
Transportation/Additional Information	No provision is made

UN "Standard Specification"	No provision is made

15. REGULATORY INFORMATION

Law of the People's Republic of China on the Prevention of Occupational Diseases	
Classification of occupational disease hazard factors (2015)	Not included
Regulations on the Safety Management of Hazardous Chemicals	
Dangerous Goods Chemical Catalogue (2015)	Not included
List of Explosive Hazardous Chemicals (2017)	Not included
List of Hazardous Chemicals under Key Regulation	
The first and second batches of key regulated hazardous chemicals list	Not included
Measures for Registration of Environmental Management of Hazardous Chemicals (Trial)	
Catalogue of hazardous chemicals for key environmental management	Not included
Regulations on the Administration of Narcotic Drugs and Psychotropic Substances	
List of varieties of narcotic drugs	Not included
List of psychotropic drug varieties	Not included
Environmental Management of New Chemical Substances	
List of Existing Chemical Substances in China (2013)	Listed

16. OTHER INFORMATION

The above information is based on the data and information currently available, but all values (content, physical and chemical property data, etc.) are not guaranteed, and all chemical substances may have unforeseen hazards, and the above records do not guarantee that all hazards are covered, so care should be taken when using.