

Safety Data Sheet

1. IDENTIFICATION

Product

Product name : TDzyme C
Product code : TDC0005

Recommended use of the chemical and restrictions on use

Restrictions on use : For research use only

Manufacturer or supplier's details

Company name of supplier : CONNEXT Co., Ltd.
Address : 59 Yangho-gil,
Yeongcheon-si, Gyeongsangbuk-do,
38822, Republic of Korea
Telephone : +82-54-339-0521
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2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin irritation : Category 2
Eye irritation : Category 2
Respiratory sensitization : Category 1
Skin sensitization : Category 1
Specific target organ systemic toxicity : Category 3
-single exposure

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

Precautionary statements
Prevention:

P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/ eye protection/ face protection.
P285	In case of inadequate ventilation wear respiratory protection.
Response:	
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation occurs: Get medical advice/ attention.
P342 + P311	If experiencing respiratory symptoms: Call a poison center/ doctor.
P362	Take off contaminated clothing and wash before reuse.
Storage:	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
Disposal:	
P501	Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Substance / Mixture	:	Mixture
Substance name	:	TDzyme C

Hazardous ingredients

Ingredients	CAS Number	Concentration (% w/w)
Collagenase	9001-12-1	>= 10 - < 25
Thermolysin	9073-78-3	>= 0.5 - < 1.3
Calcium chloride	10043-52-4	>= 1 - < 2.5

4. FIRST AID MEASURES

Inhalation

If breathing is uncomfortable, move to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and call medical attention.
Do not use mouth-to-mouth method.

Skin contact

If skin irritation persists, get medical attention.
If on skin, rinse well with plenty of water.

Eye contact

Immediately rinse with plenty of water.

Keep eye wide open while rinsing.
If irritation persists, call medical attention.

Ingestion

Rinse mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician and take to hospital.
If ingestion of a large amount does occur, call a poison control center.

Most important symptoms and effects, both acute and delayed

Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Notes to physician

Provide general supportive measures and treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray. Alcohol resistant foam. Dry chemical powder. Carbon dioxide(CO₂).

Unsuitable extinguishing media

No information available.

Specific hazards during fire fighting

No information available.

Hazardous combustion products

In case of fire hazardous decomposition product may be produced such as:
Carbon oxides, Nitrogen oxides(NO_x), Sulfur oxides(SO_x)

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precaution, protective equipment and emergency procedures

Use personal protective equipment.
Avoid dust formation.
Avoid inhalation of vapors.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental precautions

Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.
Absorb spillage with suitable absorbent material.
Clean surface thoroughly to remove residual contamination.

7. HANDLING AND STORAGE

Precaution for safe handling

Avoid all contact and inhalation of dust, mists, and/or vapors associated with the material.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Clean equipment and work surfaces with suitable detergent or solvent after use.
After removing gloves, wash hands and other exposed skin thoroughly.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Condition for safe storage

Keep container tightly closed in a dry and well-ventilated place.
This material should be handled and stored per label instructions to ensure product integrity.

Technical measures/ Precautions

See label, package insert or internal guidelines.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

No exposure standards allocated.

Engineering measures

No data available.

Personal protective equipment

Respiratory protection

In the case of dust or aerosol formation use NIOSH-approved respiratory protection and have an effective respirator program in place.

Hand protection

Material	:	Chemically compatible gloves
Remarks	:	Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Eye protection

Maintain eyewash facilities or eye wash bottle with pure water in the work area.
Wear appropriate safety goggles to prevent eye contact.
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection

For handling of laboratory scale quantities, a cloth lab coat is recommended.
Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Hygiene measures

When using do not eat or drink.

When using do not smoke.
Wash hands before breaks and at the end of workday.
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

<u>Appearance</u>	:	Solid, (lyophilized)
<u>Color</u>	:	White
<u>Odor</u>	:	No data available
<u>Odor Threshold</u>	:	None applicable
<u>pH</u>	:	None applicable
<u>Melting point/ range</u>	:	No data available
<u>Boiling point/ boiling range</u>	:	No data available
<u>Flash point</u>	:	No data available
<u>Evaporation rate</u>	:	No data available
<u>Flammability (solid, gas)</u>	:	No data available
<u>Flammability (liquids)</u>	:	No data available
<u>Self-ignition</u>	:	No data available
<u>Autoignition temperature</u>	:	No data available
<u>Upper explosion limit</u>	:	No data available
<u>Lower explosion limit</u>	:	No data available
<u>Vapor pressure</u>	:	No data available
<u>Relative vapor density</u>	:	No data available
<u>Relative density</u>	:	None applicable
<u>Solubility(ies)</u>		
Water solubility	:	Soluble
Solubility in other solvents	:	No data available
<u>Partition coefficient: n-octanol/water</u>	:	No data available
<u>Decomposition temperature</u>	:	No data available
<u>Viscosity</u>	:	None applicable
<u>Oxidizing properties</u>	:	Not classified as oxidizing

10. CHEMICAL STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under recommended storage conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid

Heat, flames and sparks.
Exposure to moisture.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Nitrogen oxides(NO_x), Carbon oxides, Sulfur oxides(SO_x)
Emits toxic fumes under fire condition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Skin corrosion/ irritation

Causes skin irritation.

Serious eye damage/ eye irritation

Causes serious eye irritation.

Skin sensitization

Not classified based on available information.

Respiratory sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.
Data from germ cell mutagenicity tests were not found.

Carcinogenicity

Not classified based on available information

- IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

Dispose of in accordance with local regulations.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Residue from fires extinguished with this material may be hazardous.
Send to a licensed waste management company.

Contaminated packaging

Empty remaining contents.
Do not re-use empty container.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

DOT

Not regulated as a dangerous good.

IATA-DGR

Not regulated as a dangerous good.

IMDG-Code

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

US Federal Regulation

SARA 313 : This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants(HAPs) (defined by 40 CFR 61):

This product does not contain HAPs.

US State Regulations

California Proposition 65 : This product does not contain any chemicals listed in Proposition 65.

Other national regulations

DSL : Not in compliance with the inventory.

KECI : Not in compliance with the inventory.

16. OTHER INFORMATION

Issue date

11-15-2019

Version #

01

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03-10-2020

Further information

Not available.

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