# Chemical Book India

H.C.		Chem	ical Safety	Data Shee	t MSDS / S	DS			
Trypsin SDS Revision Date:2024-04-25 Revision Number:1									
Section 1 Section 9	Section 2 Section 10	Section 3 Section 11	Section 4 Section 12	Section 5 Section 13	Section 6 Section 14	Section 7 Section 15	Section 8 Section 16		
SECTION 1: Identification of the substance/mixture and of the company/undertaking         Product identifier       Product name:       Trypsin         CAS:       9002-07-7									
Relevant identified uses of the substance or mixture and uses advised against									
Relevant identified uses:		For R&D use only. Not for medicinal, household or other use.							
Uses advised against:		none							
Company Ide	entification								
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# **SECTION 2: Hazards identification**

# Classification of the substance or mixture

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

## GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

# Hazard statement(s)

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

## Precautionary statement(s)

## Prevention

P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.

# Response

P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319 Get medical help if you feel unwell.
P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.

#### 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 appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

# Other hazards which do not result in classification

no data available

# SECTION 3: Composition/information on ingredients

Substance			
Chemical name:	Trypsin		
Common names and synonyms:	Trypsin		
CAS number:	9002-07-7		
EC number:	232-650-8		
Concentration:	100%		

# **SECTION 4: First aid measures**

# Description of necessary first-aid measures

# lf inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

# Following skin contact

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

# Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

# Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

#### Most important symptoms/effects, acute and delayed

no data available

Indication of immediate medical attention and special treatment needed, if necessary

no data available

# **SECTION 5: Firefighting measures**

## Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

## Specific hazards arising from the chemical

no data available

# Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

# **SECTION 6: Accidental release measures**

# Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

# Environmental precautions

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

# Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

# SECTION 7: Handling and storage

## Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

#### Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

# SECTION 8: Exposure controls/personal protection

**Control parameters** 

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

#### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

#### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

# Thermal hazards

no data available

# SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	no data available		
Colour:	no data available		
Odour:	no data available		
Melting point/freezing point:	no data available		
Boiling point or initial boiling point and boiling range:	no data available		
Flammability:	no data available		
Lower and upper explosion limit/flammability limit:	no data available		
Flash point:	no data available		
Auto-ignition temperature:	no data available		
Decomposition temperature:	no data available		
pH:	no data available		

Kinematic viscosity:	no data available
Solubility:	no data available
Partition coefficient n- octanol/water:	no data available
Vapour pressure:	no data available
Density and/or relative density:	no data available
Relative vapour density:	no data available
Particle characteristics:	no data available

# SECTION 10: Stability and reactivity

Reactivity

no data available

# Chemical stability

no data available

# Possibility of hazardous reactions

no data available

# Conditions to avoid

no data available

# Incompatible materials

no data available

# Hazardous decomposition products

no data available

# **SECTION 11: Toxicological information**

Acute toxicity Oral: no data available Inhalation: no data available Dermal: no data available

# Skin corrosion/irritation

no data available

# Serious eye damage/irritation

no data available

# Respiratory or skin sensitization

no data available

# Germ cell mutagenicity

no data available

# Carcinogenicity

no data available

# Reproductive toxicity

no data available

# STOT-single exposure

no data available

## STOT-repeated exposure

no data available

# Aspiration hazard

no data available

# SECTION 12: Ecological information

#### Toxicity

Toxicity to fish: no data available Toxicity to daphnia and other aquatic invertebrates: no data available Toxicity to algae: no data available Toxicity to microorganisms: 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

# SECTION 13: Disposal considerations Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

# **SECTION 14: Transport information**

#### **UN Number**

ADR/RID: Not dangerous goods. (For reference only, please check.) IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

# **UN Proper Shipping Name**

ADR/RID: Not dangerous goods. (For reference only, please check.) IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

# Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.) IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

#### Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.) IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

#### Environmental hazards

ADR/RID: No IMDG: No

# IATA: No

# Special precautions for user

no data available

# Transport in bulk according to IMO instruments

no data available

# **SECTION 15: Regulatory information**

Safety, health and environmental regulations specific for the product in question European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

## EC Inventory

Listed.

#### United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

# SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

#### References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request\_locale=en

CAWEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

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