

Safety Data Sheet

TNKase[®] Lyophilized Powder (50 mg)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name TNKase[®] Lyophilized Powder
(50 mg)
Product code CSE-3071

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use - pharmaceutical active substance (thrombolytic) *1

1.3. Details of the supplier of the safety data sheet

Company information	Enquiries: Genentech, Inc. 1 DNA Way South San Francisco USA-CA 94080 United States of America	Local representation:
	Phone 001-(650) 225-1000 E-Mail info.sds@roche.com US Chemtrec phone: (800)-424-9300	

1.4. Emergency telephone number

Emergency telephone number US Chemtrec phone: (800)-424-9300

*1 referring to: Tenecteplase

SECTION 2: Hazards identification

Emergency Overview

Form sterile, lyophilized powder
Color white to off-white
Odor odourless

Classification of the substance or mixture / Label elements

GHS Classification no classification and labelling according to GHS

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Other hazards

Note - no information available

SECTION 3: Composition/information on ingredients

Characterization an enzyme used as a thrombolytic drug; 527 amino acid glycoprotein developed by introducing 3 modifications to the complementary DNA (cDNA) for natural human tPA *1
0.5 M arginine phosphate buffer is used as a buffering agent to maintain pH at 7.3.

Ingredients	Concentration	GHS-Classification (pure ingredient)
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Tenecteplase	6.8 %	
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*1 referring to: Tenecteplase

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact - rinse immediately with tap water for at least 20 minutes - open eyelids forcibly

Skin contact - remove immediately contaminated clothes, wash affected skin with water and soap - do not use any solvents

Inhalation - remove the casualty to fresh air and keep him/her calm
- in the event of symptoms get medical treatment

4.2. Most important symptoms and effects, both acute and delayed

Note - no information available

4.3. Indication of any immediate medical attention and special treatment needed

Note to physician - treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media - adapt extinguishing media to surrounding fire conditions

Flash point (liquid) not applicable

Unsuitable extinguishing media - full water jet

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5.2. Special hazards arising from the substance or mixture

Specific hazards - no particular hazards known

5.3. Advice for firefighters

Protection of fire-fighters - precipitate gases/vapours/mists with water spray
- use self-contained breathing apparatus

Special method of fire-fighting - if possible precipitate fire gases with a water jet

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions - ensure adequate ventilation

6.2. Environmental precautions

Environmental protection - do not allow to enter drains or waterways

6.3. Methods and material for containment and cleaning up

Methods for cleaning up - collect solids (avoid dust formation) and hand over to waste removal

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Suitable materials - glass

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions - below 30 °C
- protected from light

Validity - 8 hours, 2 to 8 °C *2
- see "best use before" date stated on the label, after opening the content should be used within a short period, any remaining reconstituted solution should be discarded

Packaging materials - vials

*2 referring to: TNKase reconstituted solution

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (USA) air	- STEL: 3 mg/m ³ (4 x 15 min)	*3
	- ACGIH-TLV: 1 mg/m ³	*3
Threshold value (Roche) air	- IOEL (Internal Occupational Exposure Limit): 0.06 mg/m ³	*1

8.2. Exposure controls

Respiratory protection	- Respiratory protection is recommended as a precaution to minimize exposure. Effective engineering controls are considered to be the primary means to control worker exposure. Respiratory protection should not substitute for feasible engineering controls. - in case of open handling or accidental release: particle mask or respirator with independent air supply
Hand protection	- protective gloves (neoprene, nitrile or butyl rubber)
Eye protection	- safety glasses

*1 referring to:	Tenecteplase
*3 referring to:	Phosphoric acid

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Color	white to off-white	
Form	sterile, lyophilized powder	
Odor	odourless	
Molecular mass	~ 65 kDa	*1
Solubility	148'700 mg/l, water (20 °C)	*4
Partition coefficient	log P _{ow} -4.20 (octanol/water°C)	*4
pH value (20 °C)	< 0.5 (100 g/l)	*3
(20 °C)	11.4 (100 g/l)	*4
	7.3	*2

9.2. Other information

Note	- no information available
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*1 referring to:	Tenecteplase
*2 referring to:	TNKase reconstituted solution
*3 referring to:	Phosphoric acid
*4 referring to:	L-Arginine

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SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - does not contain any antimicrobial preservative; therefore, care must be taken to ensure the sterility of the prepared reconstituted solution
- do not freeze the reconstituted solution

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - temperatures above 30 °C
- light

10.5. Incompatible materials

Materials to avoid - alkalis (strong exothermic reaction), metals (danger of ignition), metallic oxides (danger of ignition), nitromethane (risk of explosion)*3

10.6. Hazardous decomposition products

Note - not combustible *3
- very hygroscopic *3

*3 referring to: Phosphoric acid

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - not bioavailable by oral administration *1
- TD₁₀ > 50 mg/kg (i.v., rat) *1
- LD₅₀ 1'530 mg/kg (oral, rat) *3
- LC₅₀ > 850 mg/m³ (inhal., rat, 1 h) *3
- LD₅₀ 2'740 mg/kg (dermal, rabbit) *3
- LD₅₀ > 5'110 mg/kg (oral, rat) *4

Subacute toxicity - LD₀ 10 mg/kg/d (i.v., rat, 14 d) *1

Local effects - skin: non-irritant (rabbit; OECD No. 404) *4
- eye: not severe irritant or corrosive *4
- skin: corrosive *3

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Sensitization	anaphylactic reactions may occur following the intravenous application of proteins; rare cases of hypersensitivity have been described	*1
Mutagenicity	- negative, both with and without metabolic activation (in vitro test system; OECD No. 473 (Mammalian Cytogenic Test))	*4
Carcinogenicity	- no information available	
Reproductive toxicity	- NOEL (maternal or developmental toxicity) = 5 mg/kg (approx. 8-10 times the human dose) (i.v., rabbit)	*1
STOT-single exposure	- no information available	
STOT-repeated exposure	- no information available	
Aspiration hazard	- no information available	
Note	- prolonged bleeding and effects on the blood coagulation system may occur	*1
Potential Health Effects	<ul style="list-style-type: none"> - Exposure: Inhalation, Ingestion, Skin contact, Eye contact - Carcinogenicity: formulation not listed by NTP, IARC or OSHA 	
*1 referring to:	Tenecteplase	
*3 referring to:	Phosphoric acid	
*4 referring to:	L-Arginine	

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	<ul style="list-style-type: none"> - barely toxic for fish (zebrafish) LC₅₀ (96 h) 2800 mg/l NOEC (96 h) 1000 mg/l (OECD No. 203, semistatic) - barely toxic for planktonic crustaceans (Daphnia magna) NOEC (24 h) 1000 mg/l (OECD No. 202) - barely toxic for microorganisms (Pseudomonas putida) EC₁₀ (16 h) > 10000 mg/kg (DIN 38'412, part 8) - no information available - moderately toxic for fish (fish, unspecified) LC₅₀ 70 mg/l 	<ul style="list-style-type: none"> *4 *4 *4 *1 *3
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12.2. Persistence and degradability

Ready biodegradability	- readily biodegradable	*4
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12.3. Bioaccumulative potential

Note - no information available

12.4. Mobility in soil

Note - no information available

12.5. Results of PBT and vPvB assessment

Note - no information available

12.6. Other adverse effects

Note - harmful effect due to change of pH *3

*1 referring to: Tenecteplase
*3 referring to: Phosphoric acid
*4 referring to: L-Arginine

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues - observe local/national regulations regarding waste disposal

SECTION 14: Transport information

Note - not classified as Dangerous Good according to the Dangerous Goods Regulations, proper shipping name non-regulated

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

TSCA Status - FDA Exemption - not on inventory

Reporting Requirements - The United States Environmental Protection Agency (USEPA) has not established a Reportable Quantity (RQ) for releases of this material.
- In New Jersey, report all releases which are likely to endanger the public health, harm the environment or cause a complaint to the NJDEPE Hotline (1-609-292-5560) and to local officials.
- State and local regulations vary and may impose additional reporting requirements.

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SECTION 16: Other information

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| Note | - Please note this Safety Data Sheet for the bulk product does not apply for the finished, packaged medicinal product intended for the final user. |
| Edition documentation | - changes from previous version in sections 2, 4, 5, 6, 7, 12, 16 |

The information in this safety data sheet is based on current scientific knowledge. It should not be taken as expressing or implying any warranty concerning product characteristics.