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

1.1. Product identifier

Product name: ACTIVASE® Vials (50 mg)
Product code: SAP-10053299
Synonyms: ACTIVASE 50mg

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: Genentech, Inc.
1 DNA Way
South San Francisco
USA-CA 94080
United States of America

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: Alteplase

SECTION 2: Hazards identification

Emergency Overview

Form: lyophilized powder
Color: white to off-white

Classification of the substance or mixture / Label elements

GHS Classification: no classification and labelling according to GHS
**SECTION 3: Composition/information on ingredients**

**Characterization**
0.5 M arginine phosphate buffer is used as a buffering agent to maintain pH at 7.3.

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
<th>GHS-Classification (pure ingredient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alteplase</td>
<td>&lt; 2.17 %</td>
<td></td>
</tr>
<tr>
<td>105857-23-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 referring to: Alteplase

**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
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 - 2 - 8 °C
- protected from light

Validity - 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
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (USA) air
- STEL: 3 mg/m³ (4 x 15 min) *2
- ACGIH-TLV: 1 mg/m³ *2

Threshold value (Roche) air
- IOEL (Internal Occupational Exposure Limit): 0.2 mg/m³ *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: Alteplase
*2 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
lyophilized powder

Molecular mass
~ 64 kDa *1

Solubility
148’700 mg/l, water (20 °C) *3

Partition coefficient
log P_{ow} -4.20 (octanol/water°C) *3

pH value
7.3 (reconstituted solution)

9.2. Other information

Note
- no information available

*1 referring to: Alteplase
*3 referring to: L-Arginine
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

Note - no information available

10.6. Hazardous decomposition products

Note - no information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - not bioavailable by oral administration
- TD_{lo} > 10 mg/kg (i.v., rat) *1
- LD_{50} 1'530 mg/kg (oral, rat) *2
- LC_{50} > 850 mg/m³ (inhal., rat, 1 h) *2
- LD_{50} 2'740 mg/kg (dermal, rabbit) *2
- LD_{50} > 5'110 mg/kg (oral, rat) *3

Subacute toxicity - LD_{0} 10 mg/kg/d (i.v., several species, 14 d) *1

Local effects - skin: non-irritant (rabbit: OECD No. 404) *3
- eye: not severe irritant or corrosive *3
- skin: corrosive *2

Sensitization anaphylactic reactions may occur following the intravenous application of proteins *1
**ACTIVASE® Vials (50 mg)**

**Mutagenicity**
- does not induce chromosomal aberrations in vitro (OECD No. 473 (Mammalian Cytogenic Test)) *1
- negative (Ames test) *1
- negative, both with and without metabolic activation (in vitro test system; OECD No. 473 (Mammalian Cytogenic Test)) *3

**Carcinogenicity**
- no information available

**Reproductive toxicity**
- Alteplase has been shown to have an embryocidal effect in rabbits when intravenously administered at dose of 3 mg/kg, which is roughly twice the human dose for acute myocardial infarction *1

**STOT-single exposure**
- no information available

**STOT-repeated exposure**
- no information available

**Aspiration hazard**
- no information available

**Potential Health Effects**
- Exposure: Inhalation, Ingestion, Skin contact, Eye contact
- Carcinogenicity: not listed by NTP, IARC or OSHA

*1 referring to: Alteplase
*2 referring to: Phosphoric acid
*3 referring to: L-Arginine

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecotoxicity**
- barely toxic for fish (zebrafish) LC₅₀ (96 h) 2800 mg/l NOEC (96 h) 1000 mg/l (OECD No. 203, semistatic) *3
- barely toxic for planktonic crustaceans (Daphnia magna) NOEC (24 h) 1000 mg/l (OECD No. 202) *3
- barely toxic for microorganisms (Pseudomonas putida) EC₁₀ (16 h) > 10000 mg/kg (DIN 38'412, part 8) *3
- no information available *1
- moderately toxic for fish (fish, unspecified) LC₅₀ 70 mg/l *2

#### 12.2. Persistence and degradability

**Ready biodegradability**
- globular proteins are generally well biodegradable *1
- readily biodegradable *3

#### 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 - no information available

*1 referring to: Alteplase
*2 referring to: Phosphoric acid
*3 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.
### SECTION 16: Other information

<table>
<thead>
<tr>
<th>Note</th>
<th>Please note this Safety Data Sheet for the bulk product does not apply for the finished, packaged medicinal product intended for the final user.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edition documentation</td>
<td>changes from previous version in sections 2, 4, 5, 6, 12</td>
</tr>
</tbody>
</table>

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.