1.1. Product identifier

Product name: VALCYTE® Powder for Oral Solution
Product code: SAP-10090308

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

Use: - pharmaceutical active substance (virostatic)

1.3. Details of the supplier of the safety data sheet

Company information: Roche Products Pty Limited
Level 8, 30-34 Hickson Road
Millers Point NSW 2000
Australia

Enquiries: 0061-2-9454-9624
Fax: 0061-2-9971-7401
E-Mail: info.sds@roche.com

1.4. Emergency telephone number

Emergency telephone number: Phone 0061-2-9454-9624

*1 referring to: Valganciclovir
SECTION 2: Hazards identification

2.1. / 2.2. Classification of the substance or mixture / Label elements

GHS Classification

Health Hazards:
- 3.5 Germ cell mutagenicity (Category 1A)
  H340 May cause genetic defects.
- 3.7 Reproductive toxicity (Category 1A)
  H360FD May damage fertility. May damage the unborn child.
- 3.9 Specific target organ toxicity - Repeated exposure (Category 1)
  H372 Causes damage to organs through prolonged or repeated exposure.

Signalword: Danger

Label:

Precautionary statements:
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust
- P281 Use personal protective equipment as required.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.

Australian Remark
- HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
- Poisons Schedule - Schedule 4
- Listed on the Australian Inventory of Chemical Substances (AICS) *1
- Listed on the Australian Inventory of Chemical Substances (AICS) *2
- Listed on the Australian Inventory of Chemical Substances (AICS) *3
- Listed on the Australian Inventory of Chemical Substances (AICS) *4
- Listed on the Australian Inventory of Chemical Substances (AICS) *5

2.3. Other hazards

Note
- no information available

*1 referring to: Valganciclovir
*2 referring to: Mannitol
*3 referring to: Fumaric acid
*4 referring to: Povidone K30
*5 referring to: Sodium benzoate

SECTION 3: Composition/information on ingredients

Characterization

consisting of 46% Valganciclovir hydrochloride, with the remainder consisting of excipients that are not classified as hazardous

Synonyms
- VALCYTE Powder for Oral Solution 50 mg/ml
- VALCYTE Dry Syrup 250 mg/5 ml
VALCYTE® Powder for Oral Solution

### Ingredient Concentration GHS-Classification (pure ingredient)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
<th>GHS-Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valganciclovir hydrochloride 175865-59-5</td>
<td>45.9 %</td>
<td>- Germ cell mutagenicity (Category 1A), H340</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reproductive toxicity (Category 1A), H360FD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Specific target organ toxicity - Repeated exposure (Category 1), H372</td>
</tr>
<tr>
<td>Mannitol 69-65-8</td>
<td>48.2 %</td>
<td></td>
</tr>
<tr>
<td>Fumaric acid 110-17-8</td>
<td>1.7 %</td>
<td></td>
</tr>
<tr>
<td>Povidone K30 9003-39-8</td>
<td>1.7 %</td>
<td></td>
</tr>
<tr>
<td>Sodium benzoate 532-32-1</td>
<td>0.8 %</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the ‘Hazard statements’ mentioned in this Section, see Section 16.

### 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
- begin with medical treatment.

**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
- get medical treatment

**Ingestion**
- summon a physician immediately

#### 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
- preserve blood and urine samples

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media**
- water spray jet, dry powder, foam, carbon dioxide, adapt extinguishing media to surrounding fire conditions
Unsuitable extinguishing media - full water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards - formation of toxic and corrosive combustion gases (ammonia, hydrogen chloride, nitrogen oxides) possible

5.3. Advice for firefighters

Protection of fire-fighters - precipitate gases/vapours/mists with water spray - chemical incident emergency response unit with full protective equipment

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions - prevent any exposure

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 - clean contaminated areas with little ethanol

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Suitable materials - aluminium, glass, stainless steel, enamel, polyethylene

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions - below 30 °C - in closed containers - protected from light

Validity - see "best use before" date stated on the label - 36 months, ≤ 30 °C, see "best use before" date stated on the label

Packaging materials - amber glass bottles with child resistant plastic closure - polyethylene bag in metal drum
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (Roche) air - IOEL (Internal Occupational Exposure Limit): 0.008 mg/m³

8.2. Exposure controls

General protective and hygiene measures - instruction of employees mandatory
- cleanse skin thoroughly after work, apply skin cream

Respiratory protection - in case of open handling or accidental release:
- particle mask or respirator with independent air supply

Hand protection - protective gloves (eg made of neoprene, nitrile or butyl rubber)

Eye protection - safety glasses

*1 referring to: Valganciclovir

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour white to slightly yellow

Form granules

Solubility 10'370 mg/l, ethanol 95 %
~ 30 mg/l, acetone
~ 2'990 mg/l, hexane
~ 70'000 mg/l, water

Partition coefficient log $P_{ow}$ 0.009 (n-octanol/buffer°C pH 6.9

Melting temperature 175 °C (with decomposition)

9.2. Other information

Dissociation constant $pK_1$ 7.6

Solubility properties hydrolytically unstable, in alkaline solution

*1 referring to: Valganciclovir

*1 Valganciclovir

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Note - no information available

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- humidity

10.5. Incompatible materials

Materials to avoid - strong oxidizing agents *1

10.6. Hazardous decomposition products

Note - tends to racemise and hydrolyse quickly in neutral and basic aqueous solution *1

*1 referring to: Valganciclovir

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - LD$_{50}$ > 2'000 mg/kg (oral, mouse) *1

Chronic toxicity - NOAEL 2 mg/kg/d (oral, rat; 90 days) *1

Local effects - skin: non-irritant (rabbit) *1

Sensitization - non-sensitizing (guinea pig) *1

Mutagenicity - mutagenic *1

Carcinogenicity - carcinogenic *6

Reproductive toxicity - teratogenic and embryotoxic
- may lower parental fertility *6

STOT-single exposure - no information available
STOT-repeated exposure - no information available
Aspiration hazard - no information available
Note - causes testicular atrophy as well as renal and hematologic changes

*1 referring to: Valganciclovir
*6 referring to: Ganciclovir

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity - barely toxic for planktonic crustaceans (Daphnia magna)
EC<sub>50</sub> (48 h) > 1010 mg/l (average measured concentration)
NOEC (48 h) 1010 mg/l (average measured concentration)
*6

- barely toxic for fish (rainbow trout)
LC<sub>50</sub> (96 h) > 1020 mg/l (average measured concentration)
NOEC (96 h) 1020 mg/l (average measured concentration)
*6

- barely toxic for fish (bluegill sunfish)
LC<sub>50</sub> (96 h) > 1020 mg/l (average measured concentration)
NOEC (96 h) 1020 mg/l (average measured concentration)
*6

- barely toxic for bluegreen algae (nominal concentration > 100 mg/l) (Nostoc sp.)
NOEC (12 d) 1000 mg/l
(FDA Technical Assistance Document No. 4.02)
*6

- barely toxic for microorganisms (bacteria, fungi, cyanobacteria in pure culture)
NOEC 1000 mg/l
*6

12.2. Persistence and degradability

Inherent biodegradability - not inherently biodegradable
2 %, 28 days

- evidence for medium-term biodegradation in surface waters
34 %, 28 d
(analogous to OECD 308, Transformation in natural water/sediment systems)
*6

12.3. Bioaccumulative potential

Note - no information available

12.4. Mobility in soil

Mobility - barely volatile (water-air)
K<sub>H</sub> = 0.00000026 Pa*m<sup>3</sup>/mol (vapour pressure/water solubility)
*6

12.5. Results of PBT and vPvB assessment

Note - no information available
12.6. Other adverse effects

Note - no information available

*6 referring to: Ganciclovir

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues - incinerate in qualified installation with flue gas scrubbing
- observe local/national regulations regarding waste disposal
- return to supplier or hand over to authorised disposal company
- medicines should not be disposed of via wastewater

SECTION 14: Transport information

Australian Remark - ADG Code: This product is not classified as a dangerous good. No special transport conditions are necessary unless required by other regulations.

SECTION 15: Regulatory information

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

Water hazard class (Germany) 3: strongly hazardous for water (according to annex 4 of directive VwVwS of 17.05.1999)

Regulatory status (Australia) - This product has been approved by the Therapeutic Goods Administration (TGA); AUST R 154382

SECTION 16: Other information

Safety-lab number - BS-6697 *1

Full text of H-Statements referred to under section 3

H340 May cause genetic defects.
H360FD May damage fertility. May damage the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.

Note - Valganciclovir is a valyl ester prodrug of ganciclovir, which after oral administration is rapidly and extensively converted to ganciclovir during the absorption process *1

Edition documentation - changes from previous version in sections 2

*1 referring to: Valganciclovir

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

1.1. Product identifier

Product name  VALCYTE® F.C. Tablets 450 mg
Product code  SAP-10069575

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

Use  - pharmaceutical active substance (virostatic)  *1

1.3. Details of the supplier of the safety data sheet

Company information  Enquiries: Roche Products Pty Limited
                     P.O. Box 255
                     Dee Why, N.S.W. 2099
                     AUS-Australia
                     Australia
                     Phone  0061-2-9454-9624
                     Fax  0061-2-9971-7401
                     E-Mail  info.sds@roche.com

Local representation:

1.4. Emergency telephone number

Emergency telephone number  Phone  0061-2-9454-9624

*1 referring to: Valganciclovir
SECTION 2: Hazards identification

2.1. / 2.2. Classification of the substance or mixture / Label elements

GHS Classification

Health Hazards:
- 3.5 Germ cell mutagenicity (Category 1A)
  H340 May cause genetic defects.
- 3.7 Reproductive toxicity (Category 1A)
  H360FD May damage fertility. May damage the unborn child.
- 3.9 Specific target organ toxicity - Repeated exposure (Category 1)
  H372 Causes damage to organs through prolonged or repeated exposure.

Signalword: Danger

Label:

Precautionary statements:
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust
- P281 Use personal protective equipment as required.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.

Australian Remark
- HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
- Poisons Schedule - Schedule 4 *1
- Listed on the Australian Inventory of Chemical Substances (AICS) *2
- Listed on the Australian Inventory of Chemical Substances (AICS) *3

2.3. Other hazards

Note
- no information available

*1 referring to: Valganciclovir
*2 referring to: Cellulose
*3 referring to: Crospovidone

SECTION 3: Composition/information on ingredients

Characterization

consisting of 81% Valganciclovir hydrochloride, with the remainder consisting of excipients that are not classified as hazardous
### 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

**Ingestion**
- summon a physician immediately

#### 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
- preserve blood and urine samples

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media**
- water spray jet, dry powder, foam, carbon dioxide, adapt extinguishing media to surrounding fire conditions

**Unsuitable extinguishing media**
- full water jet

#### 5.2. Special hazards arising from the substance or mixture

**Specific hazards**
- formation of toxic and corrosive combustion gases (ammonia, hydrogen chloride, nitrogen oxides) possible
5.3. Advice for firefighters

Protection of fire-fighters
- precipitate gases/vapours/mists with water spray
- chemical incident emergency response unit with full protective equipment

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
- prevent any exposure

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
- clean contaminated areas with little ethanol

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Suitable materials
- aluminium, glass, stainless steel, enamel, polyethylene

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions
- below 30 °C
- in closed containers
- protected from light

Validity
- 36 months, ≤ 30 °C, see "best use before" date stated on the label

Packaging materials
- high density polyethylene (HDPE) bottles with a child-resistant polypropylene screw cap

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (Roche) air
- IOEL (Internal Occupational Exposure Limit): 0.008 mg/m³

*1
8.2. Exposure controls

General protective and hygiene measures
- instruction of employees mandatory
  - cleanse skin thoroughly after work, apply skin cream
Respiratory protection
- in case of open handling or accidental release:
  - particle mask or respirator with independent air supply
Hand protection
- protective gloves (eg made of neoprene, nitrile or butyl rubber)
Eye protection
- safety glasses

*1 referring to: Valganciclovir

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour
- pink
  - pale red
Form
- oval, biconvex tablet
Solubility
- 10'370 mg/l, ethanol 95 %
  - ~ 30 mg/l, acetone
  - ~ 2'990 mg/l, hexane
  - ~ 70'000 mg/l, water
Partition coefficient
- log \( P_{ow} \) 0.009 (n-octanol/buffer°C) pH 6.9
Melting temperature
- 175 °C (with decomposition)

9.2. Other information

Dissociation constant
- \( pK_1 \) 7.6

Solubility properties

Hydrolysis
- hydrolytically unstable, in alkaline solution

*1 referring to: Valganciclovir

SECTION 10: Stability and reactivity

10.1. Reactivity

Note
- no information available

10.2. Chemical stability

Note
- no information available
10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- humidity

10.5. Incompatible materials

Materials to avoid - strong oxidizing agents *1

10.6. Hazardous decomposition products

Note - tends to racemise and hydrolyse quickly in neutral and basic aqueous solution *1

*1 referring to: Valganciclovir

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - LD$_{50}$ > 2'000 mg/kg (oral, mouse) *1
Chronic toxicity - NOAEL 2 mg/kg/d (oral, rat; 90 days) *1
Local effects - skin: non-irritant (rabbit) *1
Sensitization - non-sensitizing (guinea pig) *1
Mutagenicity - mutagenic *1
Carcinogenicity - carcinogenic *4
Reproductive toxicity - teratogenic and embryotoxic *4
- may lower parental fertility *4
STOT-single exposure - no information available
STOT-repeated exposure - no information available
Aspiration hazard - no information available

Note - causes testicular atrophy as well as renal and hematologic changes *1

*1 referring to: Valganciclovir
*4 referring to: Ganciclovir
SECTION 12: Ecological information

12.1. Toxicity

**Ecotoxicity**
- barely toxic for planktonic crustaceans (Daphnia magna)
  \( \text{EC}_{50} \) (48 h) > 1010 mg/l (average measured concentration)
  NOEC (48 h) 1010 mg/l (average measured concentration) *4
- barely toxic for fish (rainbow trout)
  \( \text{LC}_{50} \) (96 h) > 1020 mg/l (average measured concentration)
  NOEC (96 h) 1020 mg/l (average measured concentration) *4
- barely toxic for fish (bluegill sunfish)
  \( \text{LC}_{50} \) (96 h) > 1020 mg/l (average measured concentration)
  NOEC (96 h) 1020 mg/l (average measured concentration) *4
- barely toxic for bluegreen algae (nominal concentration > 100 mg/l) (Nostoc sp.)
  NOEC (12 d) 1000 mg/l
  (FDA Technical Assistance Document No. 4.02) *4
- barely toxic for microorganisms (bacteria, fungi, cyanobacteria in pure culture)
  NOEC 1000 mg/l *4

12.2. Persistence and degradability

**Inherent biodegradability**
- not inherently biodegradable
  2 %, 28 days *4
- evidence for medium-term biodegradation in surface waters
  34 %, 28 d
  (analogous to OECD 308, Transformation in natural water/sediment systems) *4

12.3. Bioaccumulative potential

**Note**
- no information available

12.4. Mobility in soil

**Mobility**
- barely volatile (water-air)
  \( K_{sv} = 0.00000026 \text{ Pa} \cdot \text{m}^3/\text{mol} \) (vapour pressure/water solubility) *4

12.5. Results of PBT and vPvB assessment

**Note**
- no information available

12.6. Other adverse effects

**Note**
- no information available

*4 referring to: Ganciclovir
SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues - return to supplier or hand over to authorised disposal company
- observe local/national regulations regarding waste disposal
- incinerate in qualified installation with flue gas scrubbing
- medicines should not be disposed of via wastewater

SECTION 14: Transport information

Australian Remark - ADG Code: This product is not classified as a dangerous good.
No special transport conditions are necessary unless required by other regulations.

SECTION 15: Regulatory information

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

Water hazard class (Germany) 3: strongly hazardous for water (according to annex 4 of directive VwVwS of 17.05.1999)

Regulatory status (Australia) - This product has been approved by the Therapeutic Goods Administration (TGA); AUST R 82906

SECTION 16: Other information

Safety-lab number - BS-6697

Full text of H-Statements referred to under section 3

H340 May cause genetic defects.
H360FD May damage fertility. May damage the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.

Note - Valganciclovir is a valyl ester prodrug of ganciclovir, which after oral administration is rapidly and extensively converted to ganciclovir during the absorption process
- 496.3 mg Valganciclovir hydrochloride per tablet is equivalent to 450 mg free base

Edition documentation - changes from previous version in sections 1, 2, 3

*1 referring to: Valganciclovir

*1 Referring to:

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.