# Safety Data Sheet

## RIVOTRIL Tablets 0.5 mg

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

**1.1. Product identifier**

<table>
<thead>
<tr>
<th>Product name</th>
<th>RIVOTRIL Tablets 0.5 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>SAP-10018326</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>pharmaceutical active substance (anti-epileptic drug) *1</td>
</tr>
</tbody>
</table>

**1.3. Details of the supplier of the safety data sheet**

<table>
<thead>
<tr>
<th>Company information</th>
<th>Enquiries: Roche Products Pty Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P.O. Box 255</td>
</tr>
<tr>
<td></td>
<td>Dee Why, N.S.W. 2099</td>
</tr>
<tr>
<td></td>
<td>AUS-Australia</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
</tr>
<tr>
<td></td>
<td>Phone 0061-2-9454-9624</td>
</tr>
<tr>
<td></td>
<td>Fax 0061-2-9971-7401</td>
</tr>
<tr>
<td></td>
<td>E-Mail <a href="mailto:info.sds@roche.com">info.sds@roche.com</a></td>
</tr>
</tbody>
</table>

**1.4. Emergency telephone number**

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

*1 referring to: Clonazepam

### SECTION 2: Hazards identification

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

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>no classification and labelling according to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Remark</td>
<td>Poisons Schedule - Schedule 4 *1</td>
</tr>
<tr>
<td></td>
<td>Listed on the Australian Inventory of Chemical Substances (AICS) *1</td>
</tr>
<tr>
<td></td>
<td>Listed on the Australian Inventory of Chemical Substances (AICS) *2</td>
</tr>
<tr>
<td></td>
<td>Listed on the Australian Inventory of Chemical Substances (AICS) *3</td>
</tr>
<tr>
<td></td>
<td>Listed on the Australian Inventory of Chemical Substances (AICS) *4</td>
</tr>
</tbody>
</table>
2.3. Other hazards

Note

- Benzodiazepines induce central nervous system depression and drowsiness. In addition, longer use may be habit forming. Hence, these compounds are also misused by addicts. *1

*1 referring to: Clonazepam

SECTION 3: Composition/information on ingredients

Characterization mixture of 0.3% Clonazepam with excipients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
<th>EU-Classification (pure ingredient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam</td>
<td>0.3%</td>
<td>R52/53 S61</td>
</tr>
<tr>
<td>CAS: 1622-61-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactose monohydrate</td>
<td>26.7%</td>
<td></td>
</tr>
<tr>
<td>CAS: 10039-26-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn starch</td>
<td>69.3%</td>
<td></td>
</tr>
<tr>
<td>CAS: 9005-25-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talcum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 14807-96-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium stearate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 557-04-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact
- rinse immediately with tap water for 10 minutes - open eyelids forcibly

Skin contact
- drench affected skin with plenty of water

Inhalation
- remove the casualty to fresh air
- 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
- in cases of severe poisoning: Anexate i.V. has possibly to be repeated, because of the half-life of elimination of Clonazepam is much higher than this of Anexate

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Specific hazards - formation of toxic and corrosive combustion gases (nitrous oxide, hydrogen chloride) possible
- consider dust explosion hazard

5.3. Advice for firefighters

Protection of fire-fighters - precipitate gases/vapours/mists with water spray

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions - avoid 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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Technical measures - processing in closed systems, if possible superposed by inert gas (e.g. nitrogen)
- avoid dust formation; consider dust explosion hazard
- take precautionary measures against electrostatic charging
- provide exhaust ventilation
RIVOTRIL Tablets 0.5 mg

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions  - protected from light and humidity
                    - below 30 °C

Validity           - 60 months, < 30 °C, see "best use before" date stated on the label
                    - 24 months, < 30 °C, Holding Time (Bulk)

Packaging materials - polyethylene bag in metal drum
                    - 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): 0.01 mg/m³ *1

8.2. Exposure controls

General protective and hygiene measures  - instruction of employees recommended

Respiratory protection  - 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: Clonazepam

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour              orange

Form                round, biplanar tablet

Solubility          27'800 mg/l, acetone (20 °C) *1
                    18'500 mg/l, chloroform (20 °C) *1
                    7'600 mg/l, methanol (20 °C) *1
                    < 100 mg/l, hexane (20 °C) *1
                    < 100 mg/l, water (20 °C) *1

Partition coefficient log P_{ow} 2.41 (n-octanol-buffer 25 °C) pH 7.4 *1

pH value            5.0 to 7.0 (1 % suspension in water) *1

Melting temperature 236.5 to 238.5 °C *1
9.2. Other information

Dissociation constant

\[ \begin{align*}
\text{pK}_1 & \quad 1.5 \\
\text{pK}_2 & \quad 10.5
\end{align*} \]

*1 referring to: Clonazepam

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 - light - humidity

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

- \( \text{LD}_{50} > 15'000 \text{ mg/kg (oral, rat)} \) *1
- \( \text{LD}_{50} 2'000 \text{ mg/kg (oral, mouse)} \) *1

Mutagenicity - not mutagenic (various in vivo and in vitro test systems) *1

Reproductive toxicity - not teratogenic, not embryotoxic (\( \leq 40 \text{ mg/kg/d; oral, rat} \)) *1

Note - maintenance dose: 2 to 4 mg/d (adults) *1
- initial therapeutic dose: 1 to 2 mg/d (adults) *1
- elimination half-life: 20 to 60 hours *1
RIVOTRIL Tablets 0.5 mg

- sedating effects
  caution: alcohol potentiates this effect! *1

*1 referring to: Clonazepam

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity - barely toxic for algae (nominal concentration > 100 mg/l), test performed with water accommodated fractions (Scenedesmus (=Desmodesmus) subspicatus)
ErC50 (72 h) > 240 mg/l (nominal concentration)
ErC10 (72 h) 3.9 mg/l (nominal concentration)
NOEC (72 h) ≤ 2.46 mg/l (nominal concentration)
(OECD No. 201) *1
- moderately toxic for planktonic crustaceans (Daphnia magna)
EC50 (48 h) 30.3 mg/l
(FDA Technical Assistance Document No. 4.08) *1
- barely toxic for fish (as an emulsion) (rainbow trout)
LC0 (96 h) 1000 mg/l *1

12.2. Persistence and degradability

Inherent biodegradability - not inherently biodegradable
0 %, 21 days *1

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

Air pollution - observe local/national regulations

*1 referring to: Clonazepam
**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

| Waste from residues | - return to supplier or hand over to authorised disposal company  
|                     | - medicines should not be disposed of via wastewater  
|                     | - large amounts: incinerate in qualified installation with flue gas scrubbing  
|                     | - observe local/national regulations regarding waste disposal  
|                     | - unused medications or drugs with expired sell-by date might be disposed with the household waste |

**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) | 1: weakly hazardous for water (according to annex 4 of directive VwVwS of 17.05.1999) |

**SECTION 16: Other information**

| Safety-lab number | - BS-2427 |
| R phrases (chapter 3 ingredients) | R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| Edition documentation | - first edition |

*1 referring to: Clonazepam

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: RIVOTRIL Tablets 2.0 mg
Product code: SAP-10089722

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

Use: pharmaceutical active substance (anti-epileptic drug) *1

1.3. Details of the supplier of the safety data sheet

Company information: Roche Products Pty Limited
P.O. Box 255
Dee Why, N.S.W. 2099
Australia

Enquiries: 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: Clonazepam

SECTION 2: Hazards identification

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

GHS Classification: no classification and labelling according to GHS

Australian Remark: - Poisons Schedule - Schedule 4 *1
- 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
2.3. Other hazards

Note - Benzodiazepines induce central nervous system depression and drowsiness. In addition, longer use may be habit forming. Hence, these compounds are also misused by addicts.

*1 referring to: Clonazepam
*2 referring to: Corn starch
*3 referring to: Talcum
*4 referring to: Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization mixture of 1.3% Clonazepam with excipients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
<th>EU-Classification (pure ingredient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam</td>
<td>1.3 %</td>
<td>R52/53 S61</td>
</tr>
<tr>
<td>Lactose monohydrate</td>
<td>60.0 %</td>
<td></td>
</tr>
<tr>
<td>Corn starch</td>
<td>36.3 %</td>
<td></td>
</tr>
<tr>
<td>Talcum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium stearate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact - rinse immediately with tap water for 10 minutes - open eyelids forcibly
Skin contact - drench affected skin with plenty of water
Inhalation - remove the casualty to fresh air - 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
- in cases of severe poisoning: Anexate i.V. has possibly to be repeated, because of the half-life of elimination of Clonazepam is much higher than this of Anexate

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Specific hazards
- formation of toxic and corrosive combustion gases (nitrous oxide, hydrogen chloride) possible
- consider dust explosion hazard

5.3. Advice for firefighters

Protection of fire-fighters
- precipitate gases/vapours/mists with water spray

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
- avoid 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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Technical measures
- processing in closed systems, if possible superposed by inert gas (e.g. nitrogen)
- avoid dust formation; consider dust explosion hazard
- take precautionary measures against electrostatic charging
- provide exhaust ventilation
7.2. Conditions for safe storage, including any incompatibilities

Storage conditions
- protected from light and humidity
- below 30 °C

Validity
- 60 months, < 30 °C, see "best use before" date stated on the label
- 24 months, < 30 °C, Holding Time (Bulk)

Packaging materials
- polyethylene bag in metal drum
- 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): 0.01 mg/m³ *1

8.2. Exposure controls

General protective and hygiene measures
- instruction of employees recommended

Respiratory protection
- 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: Clonazepam

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour
white

Form
round, biplanar tablet

Solubility
27'800 mg/l, acetone (20 °C) *1
18'500 mg/l, chloroform (20 °C) *1
7'600 mg/l, methanol (20 °C) *1
< 100 mg/l, hexane (20 °C) *1
< 100 mg/l, water (20 °C) *1

Partition coefficient
log P<sub>ow</sub> 2.41 (n-octanol/buffer 25 °C) pH 7.4 *1

pH value
5.0 to 7.0 (1 % suspension in water) *1

Melting temperature
236.5 to 238.5 °C *1
9.2. Other information

Dissociation constant

\[ \begin{align*}
  pK_1 & = 1.5 \\
  pK_2 & = 10.5
\end{align*} \]

\*1 referring to: Clonazepam

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
- light
- humidity

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

\[ \begin{align*}
  \text{LD}_{50} & > 15'000 \text{ mg/kg (oral, rat)} \\
  \text{LD}_{50} & = 2'000 \text{ mg/kg (oral, mouse)}
\end{align*} \]

\*1

Mutagenicity - not mutagenic (various in vivo and in vitro test systems) \*1

Reproductive toxicity - not teratogenic, not embryotoxic (\( \leq 40 \text{ mg/kg/d; oral, rat} \)) \*1

Note - maintenance dose: 2 to 4 mg/d (adults) \*1
- initial therapeutic dose: 1 to 2 mg/d (adults) \*1
- elimination half-life: 20 to 60 hours \*1
## RIVOTRIL Tablets 2.0 mg

- sedating effects
  caution: alcohol potentiates this effect! *1

*1 referring to: Clonazepam

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecotoxicity**
- barely toxic for algae (nominal concentration > 100 mg/l), test performed with water accommodated fractions (Scenedesmus (=Desmodesmus) subspicatus)
  - ErC50 (72 h) > 240 mg/l (nominal concentration)
  - ErC10 (72 h) 3.9 mg/l (nominal concentration)
  - NOEC (72 h) ≤ 2.46 mg/l (nominal concentration)
  - (OECD No. 201) *1
- moderately toxic for planktonic crustaceans (Daphnia magna)
  - EC50 (48 h) 30.3 mg/l
  - (FDA Technical Assistance Document No. 4.08) *1
- barely toxic for fish (as an emulsion) (rainbow trout)
  - LC0 (96 h) 1000 mg/l

**NOEC (72 h) ≤ 2.46 mg/l (nominal concentration)**

- (OECD No. 201)

#### 12.2. Persistence and degradability

**Inherent biodegradability**
- not inherently biodegradable
  - 0 %, 21 days

#### 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

**Air pollution**
- observe local/national regulations

*1 referring to: Clonazepam
SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues
- return to supplier or hand over to authorised disposal company
- medicines should not be disposed of via wastewater
- large amounts: incinerate in qualified installation with flue gas scrubbing
- observe local/national regulations regarding waste disposal
- unused medications or drugs with expired sell-by date might be disposed with the household waste

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) 1: weakly hazardous for water (according to annex 4 of directive VwVwS of 17.05.1999)

SECTION 16: Other information

Safety-lab number - BS-2427 *1

R phrases (chapter 3 ingredients)  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Edition documentation - first edition

*1 referring to: Clonazepam

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.