

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

1.1. Product identifier

Product name MADOPAR Capsules 50/12.5 mg
 Product code SAP-10087860

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

Use - used in the treatment of patients with Parkinson's disease and restless leg syndrome (RLS)

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

1.4. Emergency telephone number

Emergency telephone number Phone 0061-2-9454-9624

SECTION 2: Hazards identification

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

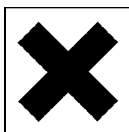
GHS Classification no classification and labelling according to GHS
 no classification and labelling according to GHS

Australian Remark

- Poisons Schedule - Schedule 4 *2
- Poisons Schedule - Schedule 4 *3
- Listed on the Australian Inventory of Chemical Substances (AICS) *4
- Listed on the Australian Inventory of Chemical Substances (AICS) *5
- Listed on the Australian Inventory of Chemical Substances (AICS) *6
- Listed on the Australian Inventory of Chemical Substances (AICS) *1
- Listed on the Australian Inventory of Chemical Substances (AICS) *7

MADOPAR Capsules 50/12.5 mg

Classification and labelling according to EU directive 67/548/EEC



Xn

R22	Harmful if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S22	Do not breathe dust.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards

Note - no information available

*1 referring to:	Talcum
*2 referring to:	Levodopa
*3 referring to:	Benserazide hydrochloride
*4 referring to:	Mannitol
*5 referring to:	Cellulose
*6 referring to:	Povidone K 90
*7 referring to:	Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization combination preparation containing Levodopa (50 mg) and Benserazide hydrochloride (14.25 mg) with excipients light-grey (body) and powder-blue (cap) opaque hard capsules with "ROCHE" printed in black

Synonyms - MADOPAR Capsules 62.5 mg

Ingredient	Concentration	EU-Classification (pure ingredient)
Levodopa CAS: 59-92-7	29.4 %	Xn R22 S22
Benserazide hydrochloride CAS: 14919-77-8	8.4 %	N R51/53 S61
Mannitol CAS: 69-65-8	25.4 %	
Microcrystalline cellulose CAS: 9004-34-6	9.4 %	
Talcum CAS: 14807-96-6		

MADOPAR Capsules 50/12.5 mg

Povidone K 90
CAS: 9003-39-8

Magnesium stearate
CAS: 557-04-0

Gelatin
CAS: 9000-70-8

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|--------------|---|
| Eye contact | - rinse with tap water for 10 minutes - open eyelids forcibly |
| Skin contact | - drench affected skin with water |
| Inhalation | - in the event of symptoms get medical treatment |

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

- Note - no information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media - adapt extinguishing media to surrounding fire conditions

5.2. Special hazards arising from the substance or mixture

- Specific hazards
- formation of toxic and corrosive combustion gases (ammonia, nitrogen oxides) possible
 - substance is hazardous for water: contain fire-fighting wastewater

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 - no special precautions required

6.2. Environmental precautions

- Environmental protection
- do not allow to enter drains or waterways
 - if the substance reaches waters or the sewer system, inform the competent authority

MADOPAR Capsules 50/12.5 mg

6.3. Methods and material for containment and cleaning up

Methods for cleaning up - take up mechanically and dispose of

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)

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions - below 25 °C
- protected from light and humidity

Validity - 12 months, ≤ 25 °C, Holding Time (Bulk)
- 36 months, ≤ 25 °C, see "best use before" date stated on the label

Packaging materials - polyethylene bag in metal drum
- glass vials, brown

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (Roche) air - IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ (defined as 1-hour time-weighted average) *2
- IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ *8

8.2. Exposure controls

Respiratory protection - respiratory protection not necessary during normal operations

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

Eye protection - safety glasses

*2 referring to: Levodopa

*8 referring to: Benserazide base

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour light grey
blue-grey

Form hard gelatin capsules

MADOPAR Capsules 50/12.5 mg

Odour	odourless	
Solubility	335'000 mg/l, water (20 °C)	*3
	222 g/l, formic acid	*2
	2.7 g/l, water	*2
	badly soluble, ethanol	*2
	slightly soluble, ether	*2
Partition coefficient	log P _{ow} -2.39 (octanol/water) (citation from literature)	*2

9.2. Other information

Bulk density	~ 630 kg/m ³	*2
*2 referring to:	Levodopa	
*3 referring to:	Benserazide hydrochloride	

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - stable under normal conditions

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- 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	- LD ₅₀	1'780	mg/kg	(oral, rat)	*2
	- LD ₅₀	2'363	mg/kg	(oral, mouse)	*2
	- LD ₅₀	5'300	mg/kg	(oral, rat)	*3
	- LD ₅₀	5'000	mg/kg	(oral, mouse)	*3
Sensitization	- not sensitizing (guinea pig)				*2
	- not sensitizing (guinea pig)				*3
Mutagenicity	- not mutagenic (various in vivo and in vitro test systems)				*2
	- not mutagenic (Ames test)				*3
Reproductive toxicity	- not teratogenic (several species)				*2
	- not embryotoxic (rat)				*2
	- not teratogenic, not embryotoxic (200 mg/kg/d, rat)				*3
*2 referring to:		Levodopa			
*3 referring to:		Benserazide hydrochloride			

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	- strongly toxic for algae (<i>Selenastrum capricornutum</i>) EbC ₅₀ (72 h) 1.5 mg/l ErC ₅₀ (72 h) ~ 4.4 mg/l NOEbC (72 h) 0.32 mg/l (OECD No. 201)				*2
	- barely toxic for planktonic crustaceans (<i>Daphnia magna</i>) EC ₅₀ (48 h) > 100 mg/l NOEC (48 h) 100 mg/l (OECD No. 202)				*2
	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC ₅₀ (72 h) > 100 mg/l (OECD No. 203)				*2
	- strongly toxic for algae, toxic effect caused by degradation products (<i>Scenedesmus (=Desmodesmus) subspicatus</i>) ErC ₅₀ (72 h) 2.66 mg/l (nominal concentration) EyC ₅₀ (72 h) 1.08 mg/l (nominal concentration) NOEC (72 h) 0.299 mg/l (nominal concentration) (OECD No. 201)				*3
	- moderately toxic for planktonic crustaceans, toxic effect caused by degradation products (<i>Daphnia magna</i>) EC ₅₀ (48 h) 18.8 mg/l (nominal concentration) NOEC (48 h) 6.25 mg/l (nominal concentration) (OECD No. 202)				*3

MADOPAR Capsules 50/12.5 mg

12.2. Persistence and degradability

Ready biodegradability	- readily biodegradable 72 %, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*2
	- not readily biodegradable ≤ 6 % BOD/ThOD, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*3
Abiotic degradation	- unstable in water, hydrolysis, photodegradation 200 mg/l (nominal concentration), ultrapure water; HPLC 52 %, 120 h, ~ 22 °C, dark 58.5 %, 120 h, ~ 22 °C, under illumination	*3
	- rapid degradation, hydrolysis 200 mg/l (nominal concentration), aquatic ecotoxicity media; HPLC > 99 %, 24 h, ~ 22 °C $t_{1/2} < 4$ h, ~ 22 °C	*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

Air pollution - observe local/national regulations

*2 referring to: Levodopa

*3 referring to: Benserazide hydrochloride

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
- observe local/national regulations regarding waste disposal
- unused medicines should be returned to a pharmacy for disposal

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

R phrases (chapter 3 ingredients)

R22	Harmful if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Note - 14.25 mg Benserazide hydrochloride are consistent with 12.5 mg Benserazide

Edition documentation - first edition

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 MADOPAR Capsules 100/25 mg
 Product code SAP-10090550

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

Use - used in the treatment of patients with Parkinson's disease and restless leg syndrome (RLS)

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	Local representation:
	Phone 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

SECTION 2: Hazards identification

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

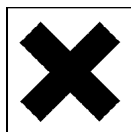
GHS Classification no classification and labelling according to GHS

Australian Remark

- Poisons Schedule - Schedule 4 *1
- Poisons Schedule - Schedule 4 *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
- Listed on the Australian Inventory of Chemical Substances (AICS) *6

MADOPAR Capsules 100/25 mg

Classification and labelling according to EU directive 67/548/EEC



Xn

R22	Harmful if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S22	Do not breathe dust.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards

Note - no information available

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride
*3 referring to:	Cellulose
*4 referring to:	Talcum
*5 referring to:	Povidone K 90
*6 referring to:	Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization combination preparation containing Levodopa (100 mg) and Benserazide hydrochloride (28.5 mg) with excipients flesh-coloured (body) and powder-blue (cap) opaque hard capsules with "ROCHE" printed in black

Synonyms - MADOPAR Capsules 125 mg

Ingredient	Concentration	EU-Classification (pure ingredient)
Levodopa CAS: 59-92-7	46.95 %	Xn R22 S22
Benserazide hydrochloride CAS: 14919-77-8	13.4 %	N R51/53 S61
Microcrystalline cellulose CAS: 9004-34-6		
Talcum CAS: 14807-96-6		
Povidone K 90 CAS: 9003-39-8		
Magnesium stearate CAS: 557-04-0		

MADOPAR Capsules 100/25 mg

Gelatin
CAS: 9000-70-8

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|--------------|---|
| Eye contact | - rinse with tap water for 10 minutes - open eyelids forcibly |
| Skin contact | - drench affected skin with water |
| Inhalation | - in the event of symptoms get medical treatment |

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

- | | |
|------|----------------------------|
| Note | - no information available |
|------|----------------------------|

SECTION 5: Firefighting measures

5.1. Extinguishing media

- | | |
|------------------------------|--|
| Suitable extinguishing media | - adapt extinguishing media to surrounding fire conditions |
|------------------------------|--|

5.2. Special hazards arising from the substance or mixture

- | | |
|------------------|---|
| Specific hazards | - formation of toxic and corrosive combustion gases (ammonia, nitrogen oxides) possible
- substance is hazardous for water: contain fire-fighting wastewater |
|------------------|---|

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 | - no special precautions required |
|----------------------|-----------------------------------|

6.2. Environmental precautions

- | | |
|--------------------------|--|
| Environmental protection | - do not allow to enter drains or waterways
- if the substance reaches waters or the sewer system, inform the competent authority |
|--------------------------|--|

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|---------------------------------------|
| Methods for cleaning up | - take up mechanically and dispose of |
|-------------------------|---------------------------------------|

MADOPAR Capsules 100/25 mg

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)

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions - below 25 °C
- protected from light and humidity

Validity - 24 months, ≤ 25 °C, Holding Time (Bulk)
- 36 months, ≤ 25 °C, see "best use before" date stated on the label

Packaging materials - polyethylene bag in metal drum
- glass vials, brown

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (Roche) air - IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ (defined as 1-hour time-weighted average) *1
- IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ *7

8.2. Exposure controls

Respiratory protection - respiratory protection not necessary during normal operations

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

Eye protection - safety glasses

*1 referring to: Levodopa

*7 referring to: Benserazide base

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour flesh-coloured
blue-grey

Form hard gelatin capsules

Odour odourless

Solubility 335'000 mg/l, water (20 °C) *2

MADOPAR Capsules 100/25 mg

	222 g/l, formic acid	*1
	2.7 g/l, water	*1
	badly soluble, ethanol	*1
	slightly soluble, ether	*1
Partition coefficient	log P _{ow} -2.39 (octanol/water) (citation from literature)	*1

9.2. Other information

Bulk density	~ 630 kg/m ³	*1
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*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - stable under normal conditions

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- 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	- LD ₅₀	1'780	mg/kg	(oral, rat)	*1
	- LD ₅₀	2'363	mg/kg	(oral, mouse)	*1
	- LD ₅₀	5'300	mg/kg	(oral, rat)	*2
	- LD ₅₀	5'000	mg/kg	(oral, mouse)	*2

MADOPAR Capsules 100/25 mg

Sensitization	- not sensitizing (guinea pig)	*1
	- not sensitizing (guinea pig)	*2
Mutagenicity	- not mutagenic (various in vivo and in vitro test systems)	*1
	- not mutagenic (Ames test)	*2
Reproductive toxicity	- not teratogenic (several species)	*1
	- not embryotoxic (rat)	*1
	- not teratogenic, not embryotoxic (200 mg/kg/d, rat)	*2
*1 referring to:	Levodopa	
*2 referring to:	Benserazide hydrochloride	

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	- strongly toxic for algae (<i>Selenastrum capricornutum</i>) EbC ₅₀ (72 h) 1.5 mg/l ErC ₅₀ (72 h) ~ 4.4 mg/l NOEbC (72 h) 0.32 mg/l (OECD No. 201)	*1
	- barely toxic for planktonic crustaceans (<i>Daphnia magna</i>) EC ₅₀ (48 h) > 100 mg/l NOEC (48 h) 100 mg/l (OECD No. 202)	*1
	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC ₅₀ (72 h) > 100 mg/l (OECD No. 203)	*1
	- strongly toxic for algae, toxic effect caused by degradation products (<i>Scenedesmus (=Desmodesmus) subspicatus</i>) ErC ₅₀ (72 h) 2.66 mg/l (nominal concentration) EyC ₅₀ (72 h) 1.08 mg/l (nominal concentration) NOEC (72 h) 0.299 mg/l (nominal concentration) (OECD No. 201)	*2
	- moderately toxic for planktonic crustaceans, toxic effect caused by degradation products (<i>Daphnia magna</i>) EC ₅₀ (48 h) 18.8 mg/l (nominal concentration) NOEC (48 h) 6.25 mg/l (nominal concentration) (OECD No. 202)	*2

12.2. Persistence and degradability

Ready biodegradability	- readily biodegradable 72 %, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*1
	- not readily biodegradable ≤ 6 % BOD/ThOD, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*2
Abiotic degradation	- unstable in water, hydrolysis, photodegradation 200 mg/l (nominal concentration), ultrapure water; HPLC 52 %, 120 h, ~ 22 °C, dark 58.5 %, 120 h, ~ 22 °C, under illumination	*2

MADOPAR Capsules 100/25 mg

- rapid degradation, hydrolysis 200 mg/l (nominal concentration), aquatic ecotoxicity media; HPLC
> 99 %, 24 h, ~ 22 °C
 $t_{1/2} < 4$ h, ~ 22 °C

*2

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: Levodopa

*2 referring to: Benserazide hydrochloride

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
 - observe local/national regulations regarding waste disposal
 - unused medicines should be returned to a pharmacy for disposal

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)

MADOPAR Capsules 100/25 mg

SECTION 16: Other information

R phrases (chapter 3 ingredients)

R22	Harmful if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Note - 28.5 mg Benserazide hydrochloride are consistent with 25.0 mg Benserazide

Edition documentation - first edition

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 MADOPAR Capsules 200/50 mg
 Product code SAP-10090551

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

Use - used in the treatment of patients with Parkinson's disease and restless leg syndrome (RLS)

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

1.4. Emergency telephone number

Emergency telephone number Phone 0061-2-9454-9624

SECTION 2: Hazards identification

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

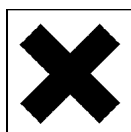
GHS Classification no classification and labelling according to GHS

Australian Remark

- Poisons Schedule - Schedule 4 *1
- Poisons Schedule - Schedule 4 *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
- Listed on the Australian Inventory of Chemical Substances (AICS) *6

MADOPAR Capsules 200/50 mg

Classification and labelling according to EU directive 67/548/EEC



Xn

R22	Harmful if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S22	Do not breathe dust.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards

Note - no information available

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride
*3 referring to:	Cellulose
*4 referring to:	Talcum
*5 referring to:	Povidone K 90
*6 referring to:	Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization combination preparation containing Levodopa (200 mg) and Benserazide hydrochloride (57 mg) with excipients caramel-coloured (body) and powder-blue (cap) opaque hard capsules with "ROCHE" printed in black

Synonyms - MADOPAR Capsules 250 mg

Ingredient	Concentration	EU-Classification (pure ingredient)
Levodopa CAS: 59-92-7	53.2 %	Xn R22 S22
Benserazide hydrochloride CAS: 14919-77-8	15.2 %	N R51/53 S61
Microcrystalline cellulose CAS: 9004-34-6		
Talcum CAS: 14807-96-6		
Povidone K 90 CAS: 9003-39-8		
Magnesium stearate CAS: 557-04-0		

MADOPAR Capsules 200/50 mg

Gelatin
CAS: 9000-70-8

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|--------------|---|
| Eye contact | - rinse with tap water for 10 minutes - open eyelids forcibly |
| Skin contact | - drench affected skin with water |
| Inhalation | - in the event of symptoms get medical treatment |

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

- | | |
|------|----------------------------|
| Note | - no information available |
|------|----------------------------|

SECTION 5: Firefighting measures

5.1. Extinguishing media

- | | |
|------------------------------|--|
| Suitable extinguishing media | - adapt extinguishing media to surrounding fire conditions |
|------------------------------|--|

5.2. Special hazards arising from the substance or mixture

- | | |
|------------------|---|
| Specific hazards | - formation of toxic and corrosive combustion gases (ammonia, nitrogen oxides) possible
- substance is hazardous for water: contain fire-fighting wastewater |
|------------------|---|

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 | - no special precautions required |
|----------------------|-----------------------------------|

6.2. Environmental precautions

- | | |
|--------------------------|--|
| Environmental protection | - do not allow to enter drains or waterways
- if the substance reaches waters or the sewer system, inform the competent authority |
|--------------------------|--|

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|---------------------------------------|
| Methods for cleaning up | - take up mechanically and dispose of |
|-------------------------|---------------------------------------|

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)

7.2. Conditions for safe storage, including any incompatibilities

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

Validity - 24 months, ≤ 25 °C, Holding Time (Bulk)
- 36 months, ≤ 30 °C, see "best use before" date stated on the label

Packaging materials - polyethylene bag in metal drum
- glass vials, brown

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Threshold value (Roche) air - IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ (defined as 1-hour time-weighted average) *1
- IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ *7

8.2. Exposure controls

Respiratory protection - respiratory protection not necessary during normal operations

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

Eye protection - safety glasses

*1 referring to: Levodopa

*7 referring to: Benserazide base

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour brownish yellow
blue-grey

Form hard gelatin capsules

Odour odourless

Solubility 335'000 mg/l, water (20 °C) *2

MADOPAR Capsules 200/50 mg

	222 g/l, formic acid	*1
	2.7 g/l, water	*1
	badly soluble, ethanol	*1
	slightly soluble, ether	*1
Partition coefficient	log P _{ow} -2.39 (octanol/water) (citation from literature)	*1

9.2. Other information

Bulk density	~ 630 kg/m ³	*1
--------------	-------------------------	----

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - stable under normal conditions

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- 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	- LD ₅₀	1'780	mg/kg	(oral, rat)	*1
	- LD ₅₀	2'363	mg/kg	(oral, mouse)	*1
	- LD ₅₀	5'300	mg/kg	(oral, rat)	*2
	- LD ₅₀	5'000	mg/kg	(oral, mouse)	*2

MADOPAR Capsules 200/50 mg

Sensitization	- not sensitizing (guinea pig)	*1
	- not sensitizing (guinea pig)	*2
Mutagenicity	- not mutagenic (various in vivo and in vitro test systems)	*1
	- not mutagenic (Ames test)	*2
Reproductive toxicity	- not teratogenic (several species)	*1
	- not embryotoxic (rat)	*1
	- not teratogenic, not embryotoxic (200 mg/kg/d, rat)	*2
*1 referring to:	Levodopa	
*2 referring to:	Benserazide hydrochloride	

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	- strongly toxic for algae (<i>Selenastrum capricornutum</i>) EbC ₅₀ (72 h) 1.5 mg/l ErC ₅₀ (72 h) ~ 4.4 mg/l NOEbC (72 h) 0.32 mg/l (OECD No. 201)	*1
	- barely toxic for planktonic crustaceans (<i>Daphnia magna</i>) EC ₅₀ (48 h) > 100 mg/l NOEC (48 h) 100 mg/l (OECD No. 202)	*1
	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC ₅₀ (72 h) > 100 mg/l (OECD No. 203)	*1
	- strongly toxic for algae, toxic effect caused by degradation products (<i>Scenedesmus (=Desmodesmus) subspicatus</i>) ErC ₅₀ (72 h) 2.66 mg/l (nominal concentration) EyC ₅₀ (72 h) 1.08 mg/l (nominal concentration) NOEC (72 h) 0.299 mg/l (nominal concentration) (OECD No. 201)	*2
	- moderately toxic for planktonic crustaceans, toxic effect caused by degradation products (<i>Daphnia magna</i>) EC ₅₀ (48 h) 18.8 mg/l (nominal concentration) NOEC (48 h) 6.25 mg/l (nominal concentration) (OECD No. 202)	*2

12.2. Persistence and degradability

Ready biodegradability	- readily biodegradable 72 %, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*1
	- not readily biodegradable ≤ 6 % BOD/ThOD, 28 d (Manometric Respirometry Test, OECD No. 301 F)	*2
Abiotic degradation	- unstable in water, hydrolysis, photodegradation 200 mg/l (nominal concentration), ultrapure water; HPLC 52 %, 120 h, ~ 22 °C, dark 58.5 %, 120 h, ~ 22 °C, under illumination	*2

MADOPAR Capsules 200/50 mg

- rapid degradation, hydrolysis 200 mg/l (nominal concentration), aquatic ecotoxicity media; HPLC
> 99 %, 24 h, ~ 22 °C
 $t_{1/2} < 4$ h, ~ 22 °C

*2

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: Levodopa

*2 referring to: Benserazide hydrochloride

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
 - observe local/national regulations regarding waste disposal
 - unused medicines should be returned to a pharmacy for disposal

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)

MADOPAR Capsules 200/50 mg

SECTION 16: Other information

R phrases (chapter 3 ingredients)

R22	Harmful if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Note - 57 mg Benserazide hydrochloride are consistent with 50 mg Benserazide

Edition documentation - first edition

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 MADOPAR Tablets 100/25 mg
 Product code SAP-10127669

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

Use - used in the treatment of patients with Parkinson's disease and restless leg syndrome (RLS)

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	Local representation:
	Phone 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

SECTION 2: Hazards identification

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

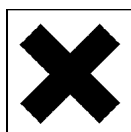
GHS Classification no classification and labelling according to GHS

Australian Remark

- Poisons Schedule - Schedule 4 *1
- Poisons Schedule - Schedule 4 *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
- Listed on the Australian Inventory of Chemical Substances (AICS) *6
- Listed on the Australian Inventory of Chemical Substances (AICS) *7
- Listed on the Australian Inventory of Chemical Substances (AICS) *8

MADOPAR Tablets 100/25 mg

Classification and labelling according to EU directive 67/548/EEC



Xn

R22	Harmful if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S22	Do not breathe dust.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards

Note - no information available

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride
*3 referring to:	Mannitol
*4 referring to:	Calcium hydrogen phosphate anhydrous
*5 referring to:	Cellulose
*6 referring to:	Corn starch
*7 referring to:	Crospovidone
*8 referring to:	Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization combination preparation containing Levodopa (100 mg) and Benserazide hydrochloride (28.5 mg) with excipients

Synonyms - MADOPAR Tablets 125 mg

Ingredient	Concentration	EU-Classification (pure ingredient)
Levodopa CAS: 59-92-7	36.4 %	Xn R22 S22
Benserazide hydrochloride CAS: 14919-77-8	10.4 %	N R51/53 S61
Mannitol CAS: 69-65-8	18.8 %	
Calcium hydrogen phosphate anhydrous CAS: 7757-93-9		
Microcrystalline cellulose CAS: 9004-34-6		
Corn starch CAS: 9005-25-8		

MADOPAR Tablets 100/25 mg

Crospovidone
CAS: 9003-39-8

Magnesium stearate
CAS: 557-04-0

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|--------------|--|
| Eye contact | - rinse with tap water for 10 minutes - open eyelids forcibly |
| Skin contact | - remove immediately contaminated clothes, wash affected skin with water and soap |
| 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

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media - water spray jet, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

- Specific hazards
- high probability of ignition of dust whirled up
 - consider dust explosion hazard
 - formation of toxic and corrosive combustion gases (ammonia, nitrogen oxides) possible
 - substance is hazardous for water: contain fire-fighting wastewater

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 - no special precautions required

MADOPAR Tablets 100/25 mg

6.2. Environmental precautions

- Environmental protection
- do not allow to enter drains or waterways
 - if the substance reaches waters or the sewer system, inform the competent authority

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; high dust explosion hazard
 - take precautionary measures against electrostatic charging
 - local exhaust ventilation necessary
 - avoid electric charging of dust clouds
 - connect the equipment to earth, avoid effective sources of ignition

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions
- below 25 °C
 - protected from light and humidity
- Validity
- 48 months, ≤ 25 °C, see expiry date on the label

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- Threshold value (Roche) air
- IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ (defined as 1-hour time-weighted average) *1
 - IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ *9

8.2. Exposure controls

- 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: Levodopa
*9 referring to: Benserazide base

MADOPAR Tablets 100/25 mg

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour	pale red	
Form	cylindrical biconvex tablet	
Odour	odourless	
Solubility	335'000 mg/l, water (20 °C)	*2
	222 g/l, formic acid	*1
	2.7 g/l, water	*1
	badly soluble, ethanol	*1
	slightly soluble, ether	*1
Partition coefficient	log P _{ow} -2.39 (octanol/water) (citation from literature)	*1

9.2. Other information

Bulk density	~ 630 kg/m ³	*1
--------------	-------------------------	----

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - stable under normal conditions

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- light

10.5. Incompatible materials

Note - no information available

MADOPAR Tablets 100/25 mg

10.6. Hazardous decomposition products

Note - no information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	- LD ₅₀	1'780	mg/kg	(oral, rat)	*1
	- LD ₅₀	2'363	mg/kg	(oral, mouse)	*1
	- LD ₅₀	5'300	mg/kg	(oral, rat)	*2
	- LD ₅₀	5'000	mg/kg	(oral, mouse)	*2
Sensitization	- not sensitizing (guinea pig)				*1
	- not sensitizing (guinea pig)				*2
Mutagenicity	- not mutagenic (various in vivo and in vitro test systems)				*1
	- not mutagenic (Ames test)				*2
Reproductive toxicity	- not teratogenic (several species)				*1
	- not embryotoxic (rat)				*1
	- not teratogenic, not embryotoxic (200 mg/kg/d, rat)				*2

*1 referring to: Levodopa
 *2 referring to: Benserazide hydrochloride

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	- strongly toxic for algae (<i>Selenastrum capricornutum</i>) EbC ₅₀ (72 h) 1.5 mg/l ErC ₅₀ (72 h) ~ 4.4 mg/l NOEbC (72 h) 0.32 mg/l (OECD No. 201)				*1
	- barely toxic for planktonic crustaceans (<i>Daphnia magna</i>) EC ₅₀ (48 h) > 100 mg/l NOEC (48 h) 100 mg/l (OECD No. 202)				*1
	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC ₅₀ (72 h) > 100 mg/l (OECD No. 203)				*1
	- strongly toxic for algae, toxic effect caused by degradation products (<i>Scenedesmus (=Desmodesmus) subspicatus</i>) ErC ₅₀ (72 h) 2.66 mg/l (nominal concentration) EyC ₅₀ (72 h) 1.08 mg/l (nominal concentration) NOEC (72 h) 0.299 mg/l (nominal concentration) (OECD No. 201)				*2

MADOPAR Tablets 100/25 mg

- moderately toxic for planktonic crustaceans, toxic effect caused by degradation products (*Daphnia magna*)
EC₅₀ (48 h) 18.8 mg/l (nominal concentration)
NOEC (48 h) 6.25 mg/l (nominal concentration)
(OECD No. 202) *2

12.2. Persistence and degradability

- Ready biodegradability
- readily biodegradable
72 %, 28 d
(Manometric Respirometry Test, OECD No. 301 F) *1
 - not readily biodegradable
≤ 6 % BOD/ThOD, 28 d
(Manometric Respirometry Test, OECD No. 301 F) *2
- Abiotic degradation
- unstable in water, hydrolysis, photodegradation 200 mg/l (nominal concentration), ultrapure water; HPLC
52 %, 120 h, ~ 22 °C, dark
58.5 %, 120 h, ~ 22 °C, under illumination *2
 - rapid degradation, hydrolysis 200 mg/l (nominal concentration), aquatic ecotoxicity media; HPLC
> 99 %, 24 h, ~ 22 °C
t_{1/2} < 4 h, ~ 22 °C *2

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: Levodopa
*2 referring to: Benserazide hydrochloride

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
 - observe local/national regulations regarding waste disposal
 - unused medicines should be returned to a pharmacy for disposal

SECTION 14: Transport information

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 - BS10028
 - BS10029
 - BS10030
 - BS10031

R phrases (chapter 3 ingredients)

R22 Harmful if swallowed.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Edition documentation - first edition

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 MADOPAR Tablets 100/25 mg
 Product code SAP-10127669

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

Use - used in the treatment of patients with Parkinson's disease and restless leg syndrome (RLS)

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	Local representation:
	Phone 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

SECTION 2: Hazards identification

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

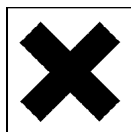
GHS Classification no classification and labelling according to GHS

Australian Remark

- Poisons Schedule - Schedule 4 *1
- Poisons Schedule - Schedule 4 *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
- Listed on the Australian Inventory of Chemical Substances (AICS) *6
- Listed on the Australian Inventory of Chemical Substances (AICS) *7
- Listed on the Australian Inventory of Chemical Substances (AICS) *8

MADOPAR Tablets 100/25 mg

Classification and labelling according to EU directive 67/548/EEC



Xn

R22	Harmful if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S22	Do not breathe dust.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards



Note - no information available

*1	referring to:	Levodopa
*2	referring to:	Benserazide hydrochloride
*3	referring to:	Mannitol
*4	referring to:	Calcium hydrogen phosphate anhydrous
*5	referring to:	Cellulose
*6	referring to:	Corn starch
*7	referring to:	Crospovidone
*8	referring to:	Magnesium stearate

SECTION 3: Composition/information on ingredients

Characterization combination preparation containing Levodopa (100 mg) and Benserazide hydrochloride (28.5 mg) with excipients

Synonyms - MADOPAR Tablets 125 mg

Ingredient	Concentration	EU-Classification (pure ingredient)
Levodopa CAS: 59-92-7	36.4 %	 Xn R22 S22
Benserazide hydrochloride CAS: 14919-77-8	10.4 %	 N R51/53 S61
Mannitol CAS: 69-65-8	18.8 %	
Calcium hydrogen phosphate anhydrous CAS: 7757-93-9		
Microcrystalline cellulose CAS: 9004-34-6		
Corn starch CAS: 9005-25-8		

MADOPAR Tablets 100/25 mg

Crospovidone
CAS: 9003-39-8

Magnesium stearate
CAS: 557-04-0

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|--------------|--|
| Eye contact | - rinse with tap water for 10 minutes - open eyelids forcibly |
| Skin contact | - remove immediately contaminated clothes, wash affected skin with water and soap |
| 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

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media - water spray jet, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

- Specific hazards
- high probability of ignition of dust whirled up
 - consider dust explosion hazard
 - formation of toxic and corrosive combustion gases (ammonia, nitrogen oxides) possible
 - substance is hazardous for water: contain fire-fighting wastewater

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 - no special precautions required

MADOPAR Tablets 100/25 mg

6.2. Environmental precautions

- Environmental protection
- do not allow to enter drains or waterways
 - if the substance reaches waters or the sewer system, inform the competent authority

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; high dust explosion hazard
 - take precautionary measures against electrostatic charging
 - local exhaust ventilation necessary
 - avoid electric charging of dust clouds
 - connect the equipment to earth, avoid effective sources of ignition

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions
- below 25 °C
 - protected from light and humidity
- Validity
- 48 months, ≤ 25 °C, see expiry date on the label

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- Threshold value (Roche) air
- IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ (defined as 1-hour time-weighted average) *1
 - IOEL (Internal Occupational Exposure Limit): 0.25 mg/m³ *9

8.2. Exposure controls

- 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: Levodopa
*9 referring to: Benserazide base

MADOPAR Tablets 100/25 mg

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Colour	pale red	
Form	cylindrical biconvex tablet	
Odour	odourless	
Solubility	335'000 mg/l, water (20 °C)	*2
	222 g/l, formic acid	*1
	2.7 g/l, water	*1
	badly soluble, ethanol	*1
	slightly soluble, ether	*1
Partition coefficient	log P _{ow} -2.39 (octanol/water) (citation from literature)	*1

9.2. Other information

Bulk density	~ 630 kg/m ³	*1
--------------	-------------------------	----

*1 referring to:	Levodopa
*2 referring to:	Benserazide hydrochloride

SECTION 10: Stability and reactivity

10.1. Reactivity

Note - no information available

10.2. Chemical stability

Stability - stable under normal conditions

10.3. Possibility of hazardous reactions

Note - no information available

10.4. Conditions to avoid

Conditions to avoid - warming
- light

10.5. Incompatible materials

Note - no information available

MADOPAR Tablets 100/25 mg

10.6. Hazardous decomposition products

Note - no information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	- LD ₅₀	1'780	mg/kg	(oral, rat)	*1
	- LD ₅₀	2'363	mg/kg	(oral, mouse)	*1
	- LD ₅₀	5'300	mg/kg	(oral, rat)	*2
	- LD ₅₀	5'000	mg/kg	(oral, mouse)	*2

Sensitization	- not sensitizing (guinea pig)	*1
	- not sensitizing (guinea pig)	*2

Mutagenicity	- not mutagenic (various in vivo and in vitro test systems)	*1
	- not mutagenic (Ames test)	*2

Reproductive toxicity	- not teratogenic (several species)	*1
	- not embryotoxic (rat)	*1
	- not teratogenic, not embryotoxic (200 mg/kg/d, rat)	*2

*1 referring to: Levodopa
*2 referring to: Benserazide hydrochloride

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	- strongly toxic for algae (<i>Selenastrum capricornutum</i>) EbC ₅₀ (72 h) 1.5 mg/l ErC ₅₀ (72 h) ~ 4.4 mg/l NOEbC (72 h) 0.32 mg/l (OECD No. 201)	*1
	- barely toxic for planktonic crustaceans (<i>Daphnia magna</i>) EC ₅₀ (48 h) > 100 mg/l NOEC (48 h) 100 mg/l (OECD No. 202)	*1
	- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout) LC ₅₀ (72 h) > 100 mg/l (OECD No. 203)	*1
	- strongly toxic for algae, toxic effect caused by degradation products (<i>Scenedesmus (=Desmodesmus) subspicatus</i>) ErC ₅₀ (72 h) 2.66 mg/l (nominal concentration) EyC ₅₀ (72 h) 1.08 mg/l (nominal concentration) NOEC (72 h) 0.299 mg/l (nominal concentration) (OECD No. 201)	*2

MADOPAR Tablets 100/25 mg

- moderately toxic for planktonic crustaceans, toxic effect caused by degradation products (*Daphnia magna*)
EC₅₀ (48 h) 18.8 mg/l (nominal concentration)
NOEC (48 h) 6.25 mg/l (nominal concentration)
(OECD No. 202) *2

12.2. Persistence and degradability

- Ready biodegradability
- readily biodegradable
72 %, 28 d
(Manometric Respirometry Test, OECD No. 301 F) *1
 - not readily biodegradable
≤ 6 % BOD/ThOD, 28 d
(Manometric Respirometry Test, OECD No. 301 F) *2
- Abiotic degradation
- unstable in water, hydrolysis, photodegradation 200 mg/l (nominal concentration), ultrapure water; HPLC
52 %, 120 h, ~ 22 °C, dark
58.5 %, 120 h, ~ 22 °C, under illumination *2
 - rapid degradation, hydrolysis 200 mg/l (nominal concentration), aquatic ecotoxicity media; HPLC
> 99 %, 24 h, ~ 22 °C
t_{1/2} < 4 h, ~ 22 °C *2

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: Levodopa
*2 referring to: Benserazide hydrochloride

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
 - observe local/national regulations regarding waste disposal
 - unused medicines should be returned to a pharmacy for disposal

SECTION 14: Transport information

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 - BS10028
 - BS10029
 - BS10030
 - BS10031

R phrases (chapter 3 ingredients)

R22 Harmful if swallowed.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Edition documentation - first edition

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.