

# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

#### **SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Sitagliptin / Metformin Extended Release Formulation

Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530

Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Pharmaceutical Restrictions on use : Not applicable

# **SECTION 2. HAZARDS IDENTIFICATION**

GHS Classification in accordance with ABNT NBR 14725 Standard

Acute toxicity (Oral) : Category 4

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.

Precautionary Statements : Prevention:

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Other hazards which do not result in classification

Dust contact with the eyes can lead to mechanical irritation.

Contact with dust can cause mechanical irritation or drying of the skin.



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

May form explosive dust-air mixture during processing, handling or other means.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
metformin hydrochloride	1115-70-4	Acute toxicity (Oral), Category 4	>= 50 -< 70
Cellulose	9004-34-6		>= 10 -< 20
Sitagliptin	654671-77-9	Eye irritation, Category 2A Short-term (acute) aquatic hazard, Category 3	>= 5 -< 10
Kaolin	1332-58-7		>= 1 -< 5
Titanium dioxide	13463-67-7	Carcinogenicity (Inhalation), Category 2	>= 0,1 -< 1

#### **SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical

advice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap.

Get medical attention if symptoms occur.

In case of eye contact : If in eyes, rinse well with water.

Get medical attention if irritation develops and persists.

: If swallowed, DO NOT induce vomiting unless directed to do

so by medical personnel. Get medical attention.

Harmful if swallowed.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms

and effects, both acute and Contac

delayed

If swallowed

Contact with dust can cause mechanical irritation or drying of

the skin.

Dust contact with the eyes can lead to mechanical irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment

when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Water spray



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

None known.

Specific hazards during fire

fighting

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a

potential dust explosion hazard.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Metal oxides

Nitrogen oxides (NOx)

Silicon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment :

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable

container for disposal.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces

with compressed air).

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### **SECTION 7. HANDLING AND STORAGE**

Technical measures : Static electricity may accumulate and ignite suspended dust



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

causing an explosion.

Provide adequate precautions, such as electrical grounding

and bonding, or inert atmospheres. Use only with adequate ventilation.

Local/Total ventilation Advice on safe handling

Do not breathe dust.

Do not swallow.

Avoid contact with eyes.

Avoid prolonged or repeated contact with skin.

Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure

assessment

Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition.

Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye

flushing systems and safety showers close to the working

place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

Conditions for safe storage : Keep in properly labeled containers.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

#### **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

# Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
metformin hydrochloride	1115-70-4	TWA	1 mg/m3 (OEB 1)	Internal
Cellulose	9004-34-6	TWA	10 mg/m <sup>3</sup>	ACGIH
Sitagliptin	654671-77-9	TWA	0.5 mg/m3 (OEB 2)	Internal
Kaolin	1332-58-7	TWA (Respirable particulate matter)	2 mg/m³	ACGIH
Titanium dioxide	13463-67-7	TWA (Respirable particulate matter)	2,5 mg/m³ (Titanium dioxide)	ACGIH



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

This substance(s) is not bioavailable and therefore does not contribute to a dust inhalation hazard.

Titanium dioxide

**Engineering measures** : Use feasible engineering controls to minimize exposure to

compound.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to

protect products, workers, and the environment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or

exposure assessment demonstrates exposures outside the

recommended guidelines, use respiratory protection.

Filter type

Hand protection

Particulates type

Material : Chemical-resistant gloves

Eye protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Skin and body protection : Work uniform or laboratory coat.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : powder

Color : blue green

Odor : No data available

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : May form explosive dust-air mixture during processing,

handling or other means.

Flammability (liquids) : No data available

Upper explosion limit / Upper : No data available



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

flammability limit

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : Not applicable

Relative vapor density : Not applicable

Relative density : No data available

Density : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle size : No data available

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

May form explosive dust-air mixture during processing,

handling or other means.

Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Avoid dust formation.

Incompatible materials

: Oxidizing agents

Hazardous decomposition

No hazardous decomposition products are known.

products

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of:

exposure

Inhalation Skin contact



# **Sitagliptin / Metformin Extended Release Formulation**

Version 6.1

Revision Date: 30.09.2023

SDS Number: 29089-00024

Date of last issue: 04.04.2023 Date of first issue: 07.11.2014

Ingestion Eye contact

**Acute toxicity** 

Harmful if swallowed.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: 1.588 mg/kg

Method: Calculation method

**Components:** 

metformin hydrochloride:

Acute oral toxicity : LD50 (Rat): 1.000 mg/kg

LD50 (Mouse): 1.450 - 3.500 mg/kg

LD50 (Monkey): 463 mg/kg

LD50 (Rabbit): 350 mg/kg

LD50 (Guinea pig): 500 mg/kg

Cellulose:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.8 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Sitagliptin:

Acute oral toxicity : LD50 (Rat): > 3.000 mg/kg

LD50 (Mouse): 3.000 mg/kg

Kaolin:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2,07 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Remarks: Based on data from similar materials

Titanium dioxide:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6,82 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

#### Skin corrosion/irritation

Not classified based on available information.

#### **Components:**

### metformin hydrochloride:

Species : Rabbit

Result : Mild skin irritation

Sitagliptin:

Species : Rabbit
Method : Draize Test
Result : No skin irritation

Kaolin:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Titanium dioxide:

Species : Rabbit

Result : No skin irritation

# Serious eye damage/eye irritation

Not classified based on available information.

#### **Components:**

#### metformin hydrochloride:

Species : Rabbit

Result : Mild eye irritation

Sitagliptin:

Species : Rabbi

Result : Irritating to eyes. Method : Draize Test



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Kaolin:

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials

Titanium dioxide:

Species : Rabbit

Result : No eye irritation

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

#### **Components:**

# Sitagliptin:

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Method : OECD Test Guideline 429
Result : Not a skin sensitizer.

Titanium dioxide:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact Species : Mouse Result : negative

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

#### metformin hydrochloride:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: in vitro test

Test system: mouse lymphoma cells

Result: negative

Test Type: Chromosomal aberration Test system: Human lymphocytes

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse Application Route: Oral

Result: negative



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Cellulose:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

**Application Route: Ingestion** 

Result: negative

Sitagliptin:

Genotoxicity in vitro : Test Type: Ames test

Result: negative

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells

Result: negative

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis in mammalian cells (in vitro) Test system: rat hepatocytes

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse Application Route: Oral Result: negative

Titanium dioxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse Result: negative

Carcinogenicity

Not classified based on available information.

**Components:** 

metformin hydrochloride:

Species : Mouse Exposure time : 91 weeks

Dose : 1500 mg/kg body weight

Result : negative



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Species : Rat, male
Application Route : Oral
Exposure time : 104 weeks

Dose : 900 mg/kg body weight

Result : negative

Species : Rat, female Application Route : Oral

Exposure time : 104 weeks
LOAEL : 900 mg/kg body weight

Result : negative

Target Organs : Uterus (including cervix)

Remarks : The mechanism or mode of action may not be relevant in hu-

mans.

Cellulose:

Species : Rat
Application Route : Ingestion
Exposure time : 72 weeks
Result : negative

Sitagliptin:

Species : Mouse
Application Route : Oral
Exposure time : 2 Years
Result : negative

Species : Rat

Application Route : oral (drinking water)

Exposure time : 2 Years
Result : positive
Target Organs : Liver

Remarks : Significant toxicity observed in testing

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Titanium dioxide:

Species : Rat

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 Years

Method : OECD Test Guideline 453

Result : positive

Remarks : The mechanism or mode of action may not be relevant in hu-

mans.

This substance(s) is not bioavailable and therefore does not

contribute to a dust inhalation hazard.

Carcinogenicity - Assess-

ment

: Limited evidence of carcinogenicity in inhalation studies with

animals.



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

#### Reproductive toxicity

Not classified based on available information.

#### **Components:**

metformin hydrochloride:

Effects on fertility : Test Type: Fertility

Species: Rat

Application Route: Oral

Fertility: NOAEL: 600 mg/kg body weight

Result: No effects on fertility.

Effects on fetal development : Test Type: Development

Species: Rat

Application Route: Oral

Developmental Toxicity: NOAEL: 600 mg/kg body weight

Result: No teratogenic effects.

Test Type: Embryo-fetal development

Species: Rabbit Application Route: Oral

Embryo-fetal toxicity.: NOAEL: 140 mg/kg body weight

Result: No teratogenic effects.

Cellulose:

Effects on fertility : Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Effects on fetal development : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

Sitagliptin:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Oral

Fertility: NOAEL Parent: 1.000 mg/kg body weight Result: Animal testing did not show any effects on fertility.

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Oral

Teratogenicity: LOAEL: 250 mg/kg body weight Result: Embryotoxic effects and adverse effects on the offspring were detected., No teratogenic effects.

Test Type: Embryo-fetal development

Species: Rabbit

Teratogenicity: NOAEL: 125 mg/kg body weight



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Result: No teratogenic effects.

#### STOT-single exposure

Not classified based on available information.

#### **STOT-repeated exposure**

Not classified based on available information.

#### Repeated dose toxicity

#### **Components:**

### metformin hydrochloride:

Species : Rat

NOAEL : 125 mg/kg Application Route : Oral Exposure time : 1 year

Remarks : No significant adverse effects were reported

Species : Rabbit
NOAEL : 100 mg/kg
Application Route : Oral
Exposure time : 1 Year

Remarks : No significant adverse effects were reported

Species: DogNOAEL: 50 mg/kgApplication Route: Subcutaneous

Exposure time : 2 year

Remarks : No significant adverse effects were reported

# Cellulose:

Species : Rat

NOAEL : >= 9.000 mg/kg

Application Route : Ingestion Exposure time : 90 Days

### Sitagliptin:

Species : Mouse
NOAEL : 500 mg/kg
LOAEL : 1.000 mg/kg

Application Route : Oral
Exposure time : > 2 y
Target Organs : Kidney

Species : Rat
NOAEL : 500 mg/kg
LOAEL : 1.000 mg/kg
Application Route : Oral
Exposure time : 14 Weeks

Target Organs : Liver, Kidney, Heart, Teeth



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Species : Dog
NOAEL : 10 mg/kg
LOAEL : 50 mg/kg
Application Route : Oral
Exposure time : 53 Weeks

Target Organs : Central nervous system

Symptoms : Loss of balance

Remarks : The mechanism or mode of action may not be relevant in

humans.

Species : Dog
NOAEL : 2 mg/kg
LOAEL : 10 mg/kg
Application Route : Oral
Exposure time : 27 Weeks

Target Organs : Skeletal muscle, Central nervous system

Symptoms : Loss of balance

Remarks : The mechanism or mode of action may not be relevant in

humans.

Species : Monkey
NOAEL : 100 mg/kg
Application Route : Oral
Exposure time : 14 Weeks

Remarks : No significant adverse effects were reported

Titanium dioxide:

Species : Rat

NOAEL : 24.000 mg/kg
Application Route : Ingestion
Exposure time : 28 Days

Species : Rat NOAEL : 10 mg/m³

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 y

**Aspiration toxicity** 

Not classified based on available information.

Experience with human exposure

**Components:** 

metformin hydrochloride:

Skin contact : Remarks: May irritate skin. Eye contact : Remarks: May irritate eyes.

Ingestion : Symptoms: Diarrhea, Nausea, Vomiting, Gastrointestinal dis-

comfort, flatulence, asthenia, Fatigue, Headache

Sitagliptin:

Inhalation : Symptoms: upper respiratory tract infection, pharyngitis,

Headache



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Ingestion : Symptoms: upper respiratory tract infection, nasopharyngitis,

Headache, Nausea, Abdominal pain, Diarrhea

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### **Components:**

metformin hydrochloride:

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 100

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 10 mg/l

Exposure time: 33 d

Method: OECD Test Guideline 210

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 40 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 1.000 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

Cellulose:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

Sitagliptin:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 60 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

: EC50 (Pseudokirchneriella subcapitata (green algae)): > 39

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

NOEC (Pseudokirchneriella subcapitata (green algae)): 2,2

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 9,2 mg/l

Exposure time: 33 d

Method: OECD Test Guideline 210

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 9,8 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 150 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

NOEC: 150 mg/l Exposure time: 3 h

Test Type: Respiration inhibition

Kaolin:

Toxicity to fish (Chronic tox-

icity)

NOELR (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 30 d

Titanium dioxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Skeletonema costatum (marine diatom)): > 10.000 mg/l

Exposure time: 72 h

Toxicity to microorganisms : EC50: > 1.000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Persistence and degradability

**Components:** 

metformin hydrochloride:

Biodegradability : Result: rapidly degradable

Biodegradation: 50 % Exposure time: 2 hrs

Cellulose:



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Biodegradability Result: Readily biodegradable.

Sitagliptin:

Biodegradability Result: not rapidly degradable

> Biodegradation: 39,7 % Exposure time: 28 d

Method: OECD Test Guideline 314

Hydrolysis: 50 %(401 d) Stability in water

Method: OECD Test Guideline 111

Bioaccumulative potential

**Components:** 

metformin hydrochloride:

Partition coefficient: n-

octanol/water

log Pow: -2

Sitagliptin:

Partition coefficient: n-

octanol/water

log Pow: -0,03

Mobility in soil

**Components:** 

metformin hydrochloride:

Distribution among environ-

log Koc: 4,3

Method: OECD Test Guideline 106 mental compartments

Sitagliptin:

Distribution among environ-

mental compartments

log Koc: 4,37

Other adverse effects

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS** 

**Disposal methods** 

Do not dispose of waste into sewer. Waste from residues

Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste

handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

**SECTION 14. TRANSPORT INFORMATION** 

International Regulations

**UNRTDG** 



# **Sitagliptin / Metformin Extended Release Formulation**

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

Not regulated as a dangerous good

**IATA-DGR** 

Not regulated as a dangerous good

**IMDG-Code** 

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**Domestic regulation** 

**ANTT** 

Not regulated as a dangerous good

Special precautions for user

Not applicable

#### **SECTION 15. REGULATORY INFORMATION**

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

National List of Carcinogenic Agents for Humans - (LINACH)

Group 2B: Possibly carcinogenic to humans

Titanium dioxide 13463-67-7

Brazil. List of chemicals controlled by the Federal : Not applicable

Police

The ingredients of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

#### **SECTION 16. OTHER INFORMATION**

Revision Date : 30.09.2023 Date format : dd.mm.yyyy

**Further information** 

Sources of key data used to compile the Material Safety

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

Data Sheet cy, http://echa.europa.eu/

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)



# Sitagliptin / Metformin Extended Release Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 6.1 30.09.2023 29089-00024 Date of first issue: 07.11.2014

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

BR / Z8