Material Safety Data Sheet

According to (EC) No 1907/2006 (REACH) and 1272/2008 (CLP)

GLYCOPYRRONII BROMIDUM

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MAGIS PHARMA

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name:	Glycopyrronium bromide Glycopyrronii bromidum Glycopyrronium bromide Glycopyrronium (bromure de) Glycopyrroniumbromid
N° CAS:	51186-83-5
N° EC:	209-887-0

1.2 Relevant identified uses of the substance/mixture and uses advised against

Identified uses:	Active Pharmaceutical Ingredient or Excipient.

1.3 Details of the supplier of the safety data sheet

Company:	FAC SECUNDUM ARTEM NV Oostmalsebaan 1c (unit 5) 2960 Sint-Lenaarts Belgium
Telephone:	(+32) (0)3 457 11 76
Email:	info@magis-pharma.be
Web page:	www.magis-pharma.be

1.4 Emergency telephone number

Public utility foundation:	Belgisch Antigifcentrum	Centre Antipoisons Belge
Telephone:	(+32) (0)70 245 245	(Service 24/7)
Web page:	www.antigifcentrum.be	www.centreantipoisons.be

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture

Classification according to (EC) n° 1272/2008

Acute Tox. 4	H302

2.2 Label elements

Labelling according to (EC) n° 1272/2008

Hazard pictogram(s):

Signal word(s): Attention

Hazard statements:

H302 Harmful if swallowed.

Precautionary statements:

P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container in accordance with local and national regulation.
Additional applicable label elements:	Not applicable.

2.3 Other hazards

Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name:	Glycopyrronium bromide
IUPAC name:	((3S)-1,1-dimethylpyrrolidin-1-ium-3-yl)-(2R)-2-cyclopentyl-2-hydroxy-2-phenylacetate bromide
Synonyms:	Glycopyrrolate Glycopyrrolate bromide Robinul
N° CAS:	51186-83-5
N° EC:	209-887-0
Molecular Formula:	$C_{19}H_{28}BrNO_3$
Content:	99.0 per cent to 101.0 per cent (dried substance)

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

After inhalation:	Avoid breathing aerosols and dusts that may be generated by handling of the product. Remove the person from the exposed area to fresh air immediately. Get medical advice if adverse symptoms will appear.
After skin contact:	Remove contaminated clothes and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of substance remains (15 – 20 minutes). Get medical advice if adverse symptoms will appear.
After eye contact:	Wash immediately with large amounts of water or normal saline. Keep eyelid open with the finger. Get medical advice if adverse symptoms will appear.
After ingestion:	If swallowed, wash mouth with water, provided person is conscious. Treat symptomatically and supportively. Get medical advice if adverse symptoms will appear.

4.2 Most important symptoms and effects, both acute and delayed

Acute effects: Dryness of mouth, nose or throat; warm or flushed skin; decreased sweating; difficulty in swallowing; urinary retention; weakness; agitation; headache; drowsiness; loss of taste; heart attack; seizures, heartbeat irregularities; rash; constipation.

Allergic reaction if inhaled or in contact with the skin.

4.3 Indication of any immediate medical attention and special treatment needed

Medical monitoring: Refer to chemical risk assessment.

Antidotes/Contraindications: antidote: physostigmine salicylate, intravenous. NOTE TO PHYSICIAN: for ingestion, consider gastric lavage and catharsis.

Overdose treatment:

1. Perform gastric lavage with 4% tannic acid solution.
2. Administer an aqueous slurry of activated charcoal.
3. To reverse severe anticholinergic symptoms, slow, intravenous administration physostigmine in doses of 0.5 to 2 mg, at a rate not to exceed 1 mg per minute; may be given in repeated doses of 1 to 4 mg as needed, up to a total dose of 5 mg in adults. Or, neostigmine methylsulfate administered intramuscularly in doses of 0.5 to 1 mg, repeat every 2 to 3 hours; or intravenously in doses of 0.5 to 2 mg; repeat if needed.
4. To control excitement or delirium, administration of small doses of a short-acting barbiturate (100 mg thiopental sodium) or benzodiazepines, or rectal infusion of a 2% solution of chloral hydrate.
5. To restore blood pressure, infusion of norepinephrine bitartrate or metaraminol.
6. Adequate hydration of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:	Water spray or regular foam, CO_2, dry powder.
Unsuitable extinguishing media:	Not available.

5.2 Special hazards arising from the substance/mixture

Hazardous combustion products: Thermal decomposition or combustion may generate toxic and hazardous fumes (CO_x, NO_x).

5.3 Advice for firefighters

Surrounding fires:	Not available.
Protection against fire:	Use self-contained breathing apparatus and protective clothing. Wear boots, overalls, gloves, eye and face protection and breathing apparatus. Equipment must be in compliance with EN criteria and used in highest condition of protection on the basis of the information reported in the previous sub-sections.
Hazardous combustion products:	Not available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear suitable protective equipment for the eyes (see section 8). Wear suitable protective clothing. In case of fire, avoid breathing fumes. Use self-contained breathing apparatus and protective clothing/equipment. Vapours/fumes can be eliminated by water spray.

For emergency responders

Use special protective equipment (eye, skin and inhalation).

6.2 Environmental precautions

Do not let the product enter drainage system, surface water, ground water and soil.

6.3 Methods and material for containment and cleaning up

Sweep up avoiding raising dust, clean up in wet conditions and hold for waste disposal.

6.4 Reference to other sections

See also section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling:	Handle away from sparks and flames – sources of ignition. Handle in a well-ventilated place. Avoid contact with incompatible materials. Keep the substance away from drains, surface or ground waters. Do not eat, drink and smoke in work areas.
Personal protection:	Wear suitable personal protective equipment (see section 8).
Technical protective measures:	Not available.
Handling:	Wash hands after handling the substance. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Storage:	Potential ignition sources: Organic powder. Avoid the formation of clouds and of deposits (layer accumulation) with any suitable device.
Conditions for safe storage, including any incompatibilities:	Store below 30 °C (86 °F); excursion permitted to 40 °C (104 °F). Keep in a well-ventilated place.
Storage – away from:	Keep away from direct sunlight. Protect from moisture.

7.3 Specific end use(s)

Active Pharmaceutical Ingredient or Excipient

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Recommended monitoring procedures: The measurements of the substance(s) in the workplace must be carried out in accordance with standardised methods described by EN guidelines.

8.2 Exposure controls

Appropriate engineering control

The adoption of the most appropriate engineering controls is also based on the local Risk Assessment done by the employer in its workplace conditions, particularly when a standardised exposure scenario is not available.

Individual protection measures

Eye/face protection:	Safety goggles as for EN 166; facial shield.
Skin protection:	Select suitable protective equipment based on the activity of use and possible exposure. Wear gloves, boots, bodysuit and other devices in accordance with EN 14605 in case of sketches or EN 13982 in case of powders.
Hand protection:	Gloves resistant to chemical agents as for the EN 374, parts 1, 2 and 3 ant the European Directive 89/89/CEE.
Respiratory protection:	Use mask with anti-dust filter as per EN 143 for harmful powder (type P2), or respirators with similar protection filters and made as per EN rules.
Thermal hazards:	Not foreseen in the standard use. Assess possible personal protective equipment based on specific uses of the substance.

Environmental exposure control

Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	White or almost white, crystalline powder.
Odour:	Odourless.
Odour threshold:	Not available.
pH:	2.0 – 3.0
Melting/freezing point:	192 °C
Initial boiling point:	Not available.
Boiling range:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability (solid/gas):	Not available.
Upper/lower flammability or explosive limits:	Not available.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	Not available.
Solubility:	Soluble in ethanol (96 per cent). Very slightly soluble in methylene chloride. Practically insoluble in chloroform and in ether.
Solubility in water:	Freely soluble in water.

Partition coefficient (n-octanol/water):	-0.990 -1.01 (QSAR predicted)
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
Explosive properties:	Not available.
Oxidising properties:	Not available.

9.2 Other information

Atmospheric OH Rate constant (est.): 3.53 x 10^{-11}.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is considered stable under normal conditions of use and storage.

10.2 Chemical stability

The substance is stable at the normal temperature and pressure and when stored in closed containers in a well-ventilated and cool place.

Stabilisers: No.

Change in physical appearance: No.

10.3 Possibility of hazardous reactions

Possibility of an exothermic reaction: No.

Possibility of a reaction releasing excessive pressure: No.

Possible degradation with unstable product formation: No.

10.4 Conditions to avoid

See section 7.2.

10.5 Incompatible materials

Oxidising agents.

10.6 Hazardous decomposition products

Toxic and hazardous fumes of CO_x, NO_x.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Oral LD50 (rat): 709 mg/kg
Skin corrosion/irritation:	May be irritant.
Serious eye damage/irritation:	May be irritant.
Respiratory/skin sensitisation:	Allergic reaction if inhaled or in contact with skin.
Germ cell mutagenicity:	Ames test (QSAR predicted – ACD/Tox Leadscope): Negative.
Carcinogenicity:	Not listed in NTP, IARC and OSHA.

	RTECS: UY4337630
Reproductive toxicity:	Teratogenesis, effects on pregnancy Cat. B: - In rat: reproductive study at the oral dose of 65 mg/kg: no teratogenic effect on foetus. - In rabbit: At the intramuscular dose of 0.5/kg/day: no teratogenic effects on foetus. Study on pregnant rats at the dose of 150 mg/kg and on pregnant mice at the dose of 100 mg/kg showed no increase in birth defects and was negative in postnatal studies.
Summary of evaluation of the CMR properties:	Not available.
STOT-single exposure:	Not available.
STOT-repeated exposure:	Not available.
Aspiration Hazard:	Not available.
Other:	Toxicokinetics information (ADME=absorption, distribution, metabolism, excretion): Distribution: The mean volume of distribution was estimated to be 0.42 ± 0.22 l/kg. Excretion: After IV administration 85% of dose was recovered in urine 48 hours post dose. After IM administration 80% of IM dose was recovered in urine and the bile. Note: Elimination of glycopyrrolate is severely impaired in patients with renal failure. Epidemiological information: Single-dose studies in humans found that very small amounts of glycopyrrolate passes the placental barrier. It is reported that full-term parturient women in labour receiving glycopyrrolate have significant changes in heart beats. No significant changes in blood pressure.

11.2 Additional information on potential adverse human health effects and symptoms

Eye contact:	May be irritant.
Skin contact:	May be irritant.
Inhalation:	May be sensitising by inhalation.
Ingestion:	Acute test studies have shown adverse effects if swallowed.
Aspiration:	Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity with *Daphnia magna* (48 hours): EC_{50} 6 734.18 mg/l (ACD/Tox suite – ECOSAR)(QSAR predicted).

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Bioaccumulation potential (log Pow):

-0.990

-1.01 (QSAR predicted)

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

Based on the available information, the substance does not satisfy the criteria to be considered a PBT or vPvB.

12.6 Other adverse effects

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Substance wastes: Incineration.

Contaminated packaging: Incineration.

Refer to national and local requirements concerning the waste disposal.

SECTION 14: TRANSPORT INFORMATION

Transport information according to ADR/RID/IMDG/ICAO/IATA

14.1 UN Number

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

14.2 UN proper shipping name

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

14.3 Transport hazard class(es)

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

14.4 Packing group

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

14.5 Environmental hazards

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

14.6 Special precautions for user

Not available.

14.7 Transport in bulk according to annex II of Marpol and the IBC Code

Not available.

14.8 Additional transport information

Not available.

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SECTION 15: REGULATORY INFORMATION

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

Hazard symbol:

Irritant

Risk phrases: R22 Harmful if swallowed.

Safety phrases: S20/21 When using do not eat, drink or smoke.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

16.1 Changes since the previous version

Not applicable.

16.2 Abbreviations and acronyms used

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
EC (number):	European Community (number)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Code for Dangerous Goods
IUPAC:	International Union of Pure and Applied Chemistry
PBT:	Persistent, Bioaccumulative and Toxic substance
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT:	Specific Target Organ Toxicity
UN (number):	United Nations (number)
vPvB:	very Persistent and very Bioaccumalative

16.3 Key literature references/sources for data

European Chemicals Agency.
https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/

16.4 Method of classification in case of mixture

Not applicable.

16.5 Relevant Hazard statements and/or precautionary statements

For information on hazard and/or precautionary statements refer to section 2 up to and including section 15.

16.6 Training advisement

Not available

16.7 Notice for user(s)

The information provided in this MSDS has been established in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015, amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council, on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769/EEC and Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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16.8 Department issuing MSDS

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