

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11259068-00005      Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

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

#### 1.1 Product identifier

Trade name : Insulin Porcine (with Metacresol) Formulation

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

Use of the Substance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

#### 1.3 Details of the supplier of the safety data sheet

Company : MSD  
20 Spartan Road  
1619 Spartan, South Africa

Telephone : +27119239300

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

#### 1.4 Emergency telephone number

+1-908-423-6000

---

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Insulin Porcine (with Metacresol) Formulation**

Version 3.0 Revision Date: 14.04.2025 SDS Number: 11259068-00005 Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Insulin (ox), 8A-l-threonine-10A-l-isoleucine-	12584-58-6 235-703-3		>= 0,1 - < 1

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Protection of first-aiders : No special precautions are necessary for first aid responders.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : Wash with water and soap as a precaution.  
Get medical attention if symptoms occur.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.

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

None known.

**4.3 Indication of any immediate medical attention and special treatment needed**

- Treatment : Treat symptomatically and supportively.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

- Unsuitable extinguishing media : None known.

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11259068-00005      Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

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

- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : No hazardous combustion products are known

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances 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.

---

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

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

### 6.2 Environmental precautions

- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with inert absorbent material.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
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.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

**Insulin Porcine (with Metacresol) Formulation**Version  
3.0Revision Date:  
14.04.2025SDS Number:  
11259068-00005Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical measures      | : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Local/Total ventilation | : Use only with adequate ventilation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Advice on safe handling | : Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment                                                                                                                                                                                                                                                                                                                                                                   |
|                         | 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.<br>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. |

**7.2 Conditions for safe storage, including any incompatibilities**

- |                                               |                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Requirements for storage areas and containers | : Keep in properly labelled containers. Store in accordance with the particular national regulations. |
| Advice on common storage                      | : Do not store with the following product types:<br>Strong oxidizing agents<br>Gases                  |

**7.3 Specific end use(s)**

- |                 |                     |
|-----------------|---------------------|
| Specific use(s) | : No data available |
|-----------------|---------------------|

---

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Insulin (ox), 8A-L-threonine-10A-L-isoleucine-	12584-58-6	TWA	3 µg/m <sup>3</sup> (OEB 4)	Internal

**8.2 Exposure controls****Engineering measures**

The information below is intended for larger pilot/commercial-scale operations and manufacturing. For smaller scale, clinical, or pharmacy settings, site-specific internal risk assessment practices should be conducted to determine appropriate exposure control measures. The health hazard risks of handling this material are dependent on multiple factors, including but not limited to physical form and quantity handled. If applicable, use process enclosures, local exhaust ventilation

**Insulin Porcine (with Metacresol) Formulation**Version  
3.0Revision Date:  
14.04.2025SDS Number:  
11259068-00005Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

(e.g., Biosafety Cabinet, Ventilated Balance Enclosures), or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Essentially no open handling permitted.

Use closed processing systems or containment technologies.

If handled in a laboratory, use a properly designed biosafety cabinet, fume hood, or other containment device if the potential exists for aerosolization. If this potential does not exist, handle over lined trays or benchtops.

**Personal protective equipment**

Eye/face 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.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Skin and body protection : Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially contaminated clothing.

Respiratory protection : No personal respiratory protective equipment normally required.

---

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance : suspension

Colour : white to off-white

Odour : No data available

Odour Threshold : No data available

pH : 6,9 - 7,8

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Upper explosion limit / Upper : No data available

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version 3.0 Revision Date: 14.04.2025 SDS Number: 11259068-00005 Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

flammability limit

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1,003 g/cm<sup>3</sup>

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

### 9.2 Other information

Molecular weight : No data available

Particle size : Not applicable

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Can react with strong oxidizing agents.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

**Insulin Porcine (with Metacresol) Formulation**

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11259068-00005      Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

---

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

||| Not classified based on available information.

**Product:**

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

||| Acute toxicity (other routes of administration) : LD50 (Rat): > 36 mg/kg

**Skin corrosion/irritation**

||| Not classified based on available information.

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

||| Remarks : No data available

**Serious eye damage/eye irritation**

||| Not classified based on available information.

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

||| Remarks : No data available

**Respiratory or skin sensitisation****Skin sensitisation**

||| Not classified based on available information.

**Respiratory sensitisation**

||| Not classified based on available information.

**Germ cell mutagenicity**

||| Not classified based on available information.

**Insulin Porcine (with Metacresol) Formulation**

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11259068-00005      Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Test system: <i>Salmonella typhimurium</i> Method: OECD Test Guideline 471 Result: negative
	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Method: OECD Test Guideline 473 Result: negative
Genotoxicity in vivo	: Test Type: In vivo micronucleus test Cell type: Bone marrow Method: OECD Test Guideline 475 Result: negative
Germ cell mutagenicity- Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity**

Not classified based on available information.

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

Species	: Rat
Application Route	: Subcutaneous
Exposure time	: 2 Years
LOAEL	: 180 µg/kg
Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen

**Reproductive toxicity**

Not classified based on available information.

**Components:****Insulin (ox), 8A-L-threonine-10A-L-isoleucine-:**

Effects on fertility	: Test Type: Fertility/early embryonic development Species: Rat Application Route: Intraperitoneal Fertility: NOAEL Mating/Fertility: 360 µg/kg Symptoms: No effects on fertility Result: No effects on fertility and early embryonic development were detected.
----------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version 3.0 Revision Date: 14.04.2025 SDS Number: 11259068-00005 Date of last issue: 04.12.2024 Date of first issue: 11.08.2023

### Repeated dose toxicity

#### Components:

##### Insulin (ox), 8A-L-threonine-10A-L-isoleucine:-

Species	:	Rat
	:	5,8 mg/kg
Application Route	:	Inhalation
Exposure time	:	6 Months
Symptoms	:	Hypoglycemia
Species	:	Monkey
	:	0,64 mg/kg
Application Route	:	Inhalation
Exposure time	:	6 Months
Symptoms	:	Hypoglycemia
Species	:	Rat
NOAEL	:	0,085 mg/kg
Application Route	:	Subcutaneous
Exposure time	:	1 Months
Species	:	Dog
NOAEL	:	0,07 mg/kg
Application Route	:	Subcutaneous
Exposure time	:	1 Months

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Components:

##### Insulin (ox), 8A-L-threonine-10A-L-isoleucine:-

Inhalation	:	Symptoms: Hypoglycemia, Fatigue, Drowsiness, Sweating, Headache, Nausea, Palpitation, tingling, numbness, altered mental status, Breathing difficulties
------------	---	---------------------------------------------------------------------------------------------------------------------------------------------------------

## SECTION 12: Ecological information

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11259068-00005      Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

---

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

#### Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.  
Do not dispose of waste into sewer.

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

### 14.1 UN number

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.2 UN proper shipping name

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

ADN : Not regulated as a dangerous good  
ADR : Not regulated as a dangerous good

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

---

Version 3.0	Revision Date: 14.04.2025	SDS Number: 11259068-00005	Date of last issue: 04.12.2024 Date of first issue: 11.08.2023
----------------	------------------------------	-------------------------------	-------------------------------------------------------------------

---

<b>RID</b>	:	Not regulated as a dangerous good
<b>IMDG</b>	:	Not regulated as a dangerous good
<b>IATA</b>	:	Not regulated as a dangerous good

### 14.4 Packing group

<b>ADN</b>	:	Not regulated as a dangerous good
<b>ADR</b>	:	Not regulated as a dangerous good
<b>RID</b>	:	Not regulated as a dangerous good
<b>IMDG</b>	:	Not regulated as a dangerous good
<b>IATA (Cargo)</b>	:	Not regulated as a dangerous good
<b>IATA (Passenger)</b>	:	Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

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

Remarks : Not applicable for product as supplied.

---

## SECTION 15: Regulatory information

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

**The components of this product are reported in the following inventories:**

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

---

## SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard

# SAFETY DATA SHEET



## Insulin Porcine (with Metacresol) Formulation

Version  
3.0

Revision Date:  
14.04.2025

SDS Number:  
11259068-00005

Date of last issue: 04.12.2024  
Date of first issue: 11.08.2023

of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

### Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

ZA / EN