

SAFETY DATA SHEET



Recombinant Follicle Stimulating Hormone Formulation



Version 2.3 Revision Date: 16.10.2020 SDS Number: 26807-00016 Date of last issue: 13.09.2019
Date of first issue: 31.10.2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Recombinant Follicle Stimulating Hormone Formulation

Manufacturer or supplier's details

Company : Organon & Co.

Address : 30 Hudson Street, 33rd floor
Jersey City, New Jersey, U.S.A 07302

Telephone : 551-430-6000

Emergency telephone number : 215-631-6999

E-mail address : EHSSTEWARD@organon.com

Recommended use of the chemical and restrictions on use

Recommended use : Pharmaceutical

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification

Reproductive toxicity : Category 1B

Specific target organ toxicity - repeated exposure : Category 1 (male reproductive organs, female reproductive organs)

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H360FD May damage fertility. May damage the unborn child.
H372 Causes damage to organs (male reproductive organs, female reproductive organs) through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P318 IF exposed or concerned, get medical advice.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Sucrose	57-50-1	>= 5 - < 10
Benzyl alcohol	100-51-6	>= 1 - < 5
Recombinant Follicle Stimulating Hormone	146479-72-3	>= 0.1 - < 0.3

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.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- 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.
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : May damage fertility. May damage the unborn child.
Causes damage to organs through prolonged or repeated exposure.
- 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).

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides
Metal oxides
- 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.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency 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.
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.
- Methods and materials for containment and 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.
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7. HANDLING AND STORAGE

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

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- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe mist or vapours.
Do not swallow.
Avoid contact with eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Sucrose	57-50-1	TWA	10 mg/m ³	ACGIH
Recombinant Follicle Stimulating Hormone	146479-72-3	TWA	5 µg/m ³	Internal
		Wipe limit	50 µg/100 cm ²	Internal

- Engineering measures** : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

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 : Combined particulates and organic vapour type
- Hand protection

- Material : Chemical-resistant gloves

- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous sub-

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

stance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: No data available
Odour	: No data available
Odour 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	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available

SAFETY DATA SHEET



Recombinant Follicle Stimulating Hormone Formulation



Version 2.3 Revision Date: 16.10.2020 SDS Number: 26807-00016 Date of last issue: 13.09.2019
Date of first issue: 31.10.2014

Density : No data available

Solubility(ies)
Water solubility : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

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

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Can react with strong oxidizing agents.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

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: > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 10 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

**Recombinant Follicle Stimulating Hormone
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

Method: Calculation method

Components:**Sucrose:**

Acute oral toxicity : LD50 (Rat): 29,700 mg/kg

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat): 1,620 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.178 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403**Recombinant Follicle Stimulating Hormone:**Acute toxicity (other routes of administration) : LD50 (Rat): > 0.290 mg/kg
Application Route: IntravenousLD50 (Monkey): > 0.290 mg/kg
Application Route: Intravenous**Skin corrosion/irritation**

Not classified based on available information.

Components:**Benzyl alcohol:**Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation**Serious eye damage/eye irritation**

Not classified based on available information.

Components:**Benzyl alcohol:**Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Recombinant Follicle Stimulating Hormone Formulation

Version 2.3 Revision Date: 16.10.2020 SDS Number: 26807-00016 Date of last issue: 13.09.2019
Date of first issue: 31.10.2014

Components:

Benzyl alcohol:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Sucrose:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Benzyl alcohol:

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Recombinant Follicle Stimulating Hormone:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mammalian cells
Result: negative

Test Type: Chromosomal aberration
Test system: Human lymphocytes
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Benzyl alcohol:

Species : Mouse

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

Application Route	:	Ingestion
Exposure time	:	103 weeks
Method	:	OECD Test Guideline 451
Result	:	negative

Reproductive toxicity

May damage fertility. May damage the unborn child.

Components:

Benzyl alcohol:

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
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Effects on foetal development	:	Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative
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Recombinant Follicle Stimulating Hormone:

Effects on fertility	:	Test Type: Fertility Species: Rat Application Route: Subcutaneous Fertility: LOAEL: 0.11 Symptoms: Effect on estrous cycle, Increase of early resorptions, Reduced fertility Result: positive
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	:	Test Type: Fertility Species: Rabbit Application Route: Subcutaneous Fertility: LOAEL: 0.027 Symptoms: Reduced fertility, Reduced embryonic survival Result: positive
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Effects on foetal development	:	Test Type: Development Species: Rat Application Route: Subcutaneous Dose: 2.9 µg/kg Result: positive, No teratogenic effects
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Reproductive toxicity - Assessment	:	Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.
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STOT - single exposure

Not classified based on available information.

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

STOT - repeated exposure

Causes damage to organs (male reproductive organs, female reproductive organs) through prolonged or repeated exposure.

Components:**Recombinant Follicle Stimulating Hormone:**

Target Organs	:	male reproductive organs, female reproductive organs
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Benzyl alcohol:**

Species	:	Rat
NOAEL	:	1.072 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	28 Days
Method	:	OECD Test Guideline 412

Recombinant Follicle Stimulating Hormone:

Species	:	Monkey
NOAEL	:	0.17 mg/kg
LOAEL	:	0.86 mg/kg
Application Route	:	Subcutaneous
Exposure time	:	13 Weeks
Number of exposures	:	daily
Target Organs	:	Reproductive organs
Remarks	:	No significant adverse effects were reported

Species	:	Rat
LOAEL	:	0.14 mg/kg
Exposure time	:	13 Weeks
Target Organs	:	Endocrine system
Remarks	:	No significant adverse effects were reported

Species	:	Dog
LOAEL	:	0.14 mg/kg
Exposure time	:	13 Weeks
Target Organs	:	Testis
Remarks	:	No significant adverse effects were reported

Species	:	Rat
NOAEL	:	0.028 mg/kg
LOAEL	:	0.28 mg/kg
Application Route	:	Subcutaneous
Exposure time	:	1 year
Target Organs	:	Testis

Species	:	Monkey, male
LOAEL	:	0.028 mg/kg

Recombinant Follicle Stimulating Hormone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

Exposure time : 1 year
Target Organs : Testis

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

Recombinant Follicle Stimulating Hormone:

Inhalation : Symptoms: gynecomastia, Skin disorders, Headache, Nausea, Vomiting, Diarrhoea

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Benzyl alcohol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 460 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 310 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 51 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Persistence and degradability

Components:

Benzyl alcohol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 92 - 96 %
Exposure time: 14 d

**Recombinant Follicle Stimulating Hormone
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

Bioaccumulative potential**Components:****Sucrose:**Partition coefficient: n-
octanol/water : Pow: < 1**Benzyl alcohol:**Partition coefficient: n-
octanol/water : log Pow: 1.05**Mobility in soil**

No data available

Other adverse effectsNo data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

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.

14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

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 IMO instrumentsNot applicable for product as supplied.

15. REGULATORY INFORMATION**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

Recombinant Follicle Stimulating Hormone Formulation

Version 2.3	Revision Date: 16.10.2020	SDS Number: 26807-00016	Date of last issue: 13.09.2019 Date of first issue: 31.10.2014
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IECSC : not determined

16. OTHER INFORMATION

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/>

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

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; 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

SAFETY DATA SHEET



Recombinant Follicle Stimulating Hormone Formulation



Version	Revision Date:	SDS Number:	Date of last issue: 13.09.2019
2.3	16.10.2020	26807-00016	Date of first issue: 31.10.2014

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.

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