LEXSYcon2.1 Expression Kit

with plasmid pLEXSY_hyg2.1 (EGE-272)

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Name:	LEXSYcon2.1 Expression Kit
Catalog Number:	EGE-1310hyg
Supplier:	Jena Bioscience GmbH Loebstedter Strasse 71 07749 Jena, Germany
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2. HAZARDS IDENTIFICATION

GHS classification according to Regulation (EC) No 1272/2008
Acute Tox 3; H301/H311
Skin Irrit. 2; H315
Skin Sens. 1; H317
Eye Dam 1; H318
Eye Irrit. 2; H319
Resp. Sens. 1; H334
STOT SE 3; H335

GHS Label elements:
Pictogram:

Signal word: Danger

Hazard statements:

H301:	Toxic if swallowed.
H311:	Toxic in contact with skin.
H315:	Causes skin irritation.
H317:	May cause an allergic skin reaction.
H318:	Causes serious eye damage.
H319:	Causes serious eye irritation.
H334:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335:	May cause respiratory irritation.

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Precautionary statements:

P261:	Avoid breathing vapors.
P264:	Wash hands thoroughly after handling.
P280:	Wear protective gloves / protective clothing / eye protection.
P285:	In case of inadequate ventilation wear respiratory protection.
P301 + P310:	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302 + P352:	IF ON SKIN: Wash with plenty of soap and water.
P304 + P341:	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P333 + P313:	If skin irritation or rash occurs: Get medical advice / attention.
P305 + P351 + P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342 + P311:	If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Additional information:
Laboratory chemicals must be handled only by qualified personnel and with precaution.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures / Hazardous components:
The kit contains the following components:

Ingredient Name	CAS #	Pictogram	H-Phrase	P-Phrase	C (max)	Amount
LT-101, LEXSY host L. tarentolae strain P10	-	-	-	-	75 %	3 x 1.6 ml
Expression vector EGE-272 (pLEXSY_hyg2.1)	-	-	-	-	10 %	5 µg
Primer set PM-101, PM-104, PM-105, PM-109, PM-110, PM-111	-	-	-	-	50 µM each	50 µl each
ML-412, LEXSY BHI (powder)	-		H315, H319, H335	P280 P302+P352 P304+P341 P305+P351+P338	100 %	2 x 18.5 g
AB-104S, LEXSY HYGRO (Hygromycin B)	31282-04-9		H301, H311, H318, H334	P264, P280 P301 + P310 P302 + P352 P305 + P351 + P338	10 %	1 ml
ML-108,	16009-13-	-	-	-	0.25 %	2 ml

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Hemin (porcine)	5					
ML-108, Triethanolamine	102-71-6				30 %	
ML-105 Penicillin G sodium salt	69-57-8		H317, H334	P261, P280, P285 P304 + P341 P333 + P313 P342 + P311	1.5 %	5 ml
ML-105 Streptomycin sulfate	3810-74-0				1.5 %	

4. FIRST AID MEASURES

General advice: Consult a physician. Show this material safety data sheet to the doctor in attendance.
After skin contact: Immediately wash skin with soap and plenty of water. Consult a physician. Desinfect component 1, L. tarentolae.
After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth with water provided person is conscious. Consult a physician.
After inhalation: Remove to fresh air. If not breathing give artificial respiration. Consult a physician.
After eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use water spray, carbon dioxide, dry chemical powder or appropriate foam.
Specific hazards arising from the chemical: Hazardous decomposition products formed under fire conditions; carbon oxides, nitrogen oxides, iron oxides and hydrogen chloride gas.
Special Firefighting Procedures: Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear protective equipment. Keep unprotected persons away. Avoid dust formation. Wash contaminated clothing before reuse.
Environmental precautions: Do not let product enter drains.

Method for Cleaning Up: Keep in suitable, closed containers for disposal. Dispose contaminated material as waste according to section 13. Ventilate area, clean and disinfect spill site after material clean-up is complete. For Kit component ML-105: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Prevent formation of dust (LEXSY BHI powder).

User Exposure: Avoid inhalation. Use personal protective equipment (i.e. impermeable gloves, lab coat or appr.).
Storage: Keep tightly closed. Store as indicated (according to section 10) at RT / 4°C / -20°C / -80°C, protect from light. Store away from food.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures: Ensure adequate ventilation and cleanable resistant tightly sealed working surfaces.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. Use a dust mask for handling LEXSY BHI powder.
Hand protection: Handle with gloves to prevent skin contact.
Eye protection: Wear chemical safety goggles to prevent eye contact.
Skin and body protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
General Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

The Kit consists of 12 components (according to section 3)

Appearance:

Form:	powder / frozen / liquid
Color:	beige / colorless / dark aubergine

Safety data:

pH:	pH 6, pH 8, pH 10
Melting point:	No data available
Boiling point:	100°C; N/A.
Flash point:	No data available
Ignition temperature:	No data available
Thermal decomposition:	No data available
Self-igniting:	No data available
Danger of explosion:	No data available
Vapor pressure:	No data available
Solubility in / Miscibility with water:	37 g/L in water (BHI powder)
Segregation coefficient (n-octanol / water):	No data available
Viscosity, dynamic:	No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

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Chemical stability: Stable under recommended storage conditions at room temperature for 10 years (Brain Heart Infusion powder (LEXSY BHI powder)), at 4°C for 12 months in the dark (ML-108), at -20°C for 12 months (PM-101, PM-104, PM-105, PM-109, PM-110, PM-111, AB-104, ML-105) and at -80°C for 12 months (LT-101).
Possibility of hazardous reactions: No data available
Conditions to avoid: Heat, strong oxidizing agents, strong acids, high or low pH, sodium hypochlorite.
Incompatible materials: Strong oxidizing agents, strong bases.
Hazardous decomposition products:
Kit component ML-108: Thermal decomposition can lead to release of irritating gases and vapors such as carbon oxides.

11. TOXICOLOGICAL INFORMATION

For detailed description, refer to the respective MSDS of components (Cat.-No. AB-104, ML-105 and ML-108).

Acute toxicity:

Kit component AB-104 (LEXSY HYGRO):
LD50 intraperitoneal: 63 mg/kg rat; 13 mg/kg guinea pig.
LD50 intravenous: 6 mg/kg mouse.
LD50 oral: 46 mg/kg mouse.

Kit component ML-108 (Hemin):
LD50 oral: 30g/kg rat
Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Signs / Symptoms of exposure:

Kit component AB-104:
Repeated exposure can cause hearing loss. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause Conjunctivitis, Dermatitis.

Kit component ML-108:
Local effects: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Specific effects: May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.

Skin corrosion/irritation: No data available
Serious eye damage/irritation: No data available

Respiratory or skin sensitization:

Kit component LEXSY BHI powder:
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Kit component AB-104:
Strong sensitizer; Respiratory: May cause allergic respiratory reaction; Skin: May cause allergic skin reaction.

Kit component ML-105:
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals. May cause allergic skin reactions.

Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available

Additional information:
RTECS: No data available (LEXSY BHI)
RTECS: WK2130000 (LEXSY HYGRO)
RTECS: No data available (Hemin)
RTECS: KL9275000 (Triethanolamine)
RTECS: WK4990000 (Streptomycin sulfate)
RTECS: XH9800000 (Penicillin G sodium salt)

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data available
Persistence and degradability: Biodegradability (Triethanolamine), BHI media and DNA preparations are degradable.
Bioaccumulative potential: No data available
Mobility in soil: No data available
General notes: Kit component LEXSY BHI powder and ML-105: Generally not hazardous for water.
Kit component ML-108: May cause long-term adverse effects in the aquatic environment. Do not flush into surface water or sanitary sewer system.

Results of PBT and vPvB assessment:
PBT: No data available
vPvB: No data available

13. DISPOSAL CONSIDERATIONS

Product: Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. The material for disposal should be mixed with, or dissolved in, a combustible solvent and burnt in a chemical incinerator equipped with an afterburner scrubber. BHI media, cultures and DNA preparations can be autoclaved (20 min 121°C) and disposed of together with household garbage.
Contaminated Packaging: Kit component LEXSY BHI powder and ML-108: Dispose of as unused product. Kit component ML-105: Disposal must be made according to official regulations.
Cleansing agents: Kit component ML-105: Water, if necessary together with cleansing agents.

14. TRANSPORT INFORMATION

Only for Kit component AB-104 (LEXSY HYGRO):

14.1 UN number:
ADR/RID: 2810 DOT(US): 2810 IMDG: 2810 IATA: 2810

14.2 UN proper shipping name:
ADR/RID: Toxic, liquids, organic, n.o.s. (Hygromycin B)
DOT(US): Toxic, liquids, organic, n.o.s.. (Hygromycin B)
IMDG: Toxic, liquids, organic, n.o.s. (Hygromycin B)
IATA: Toxic, liquids, organic, n.o.s. (Hygromycin B)
Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es):
ADR/RID: 6.1 DOT(US): 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group:
ADR/RID: II DOT(US): II IMDG: II IATA: II

14.5 Environmental hazards:
ADR/RID: No DOT(US): Marine pollutant: No; Poison Inhalation Hazard: No
IMDG: Marine pollutant: No IATA: No

14.6 Special precautions for user:
No data available.

15. REGULATORY INFORMATION

OSHA Hazards for Kit component AB-104: Highly toxic by inhalation, ingestion or skin absorption. Risk of serious damage to eyes. Respiratory sensitizer. Target organ effect. Target organs: Ears.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture:
No data available

15.2 Australian Inventory of Chemical Substances in LEXSY BHI powder:

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CAS #	Substances
7647-14-5	Sodium chloride
7558-79-4	Sodium phosphate, dibasic
50-99-7	Dextrose

15.3 Chemical Safety Assessment: No data available

16. OTHER INFORMATION

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Users should make independent decisions regarding completeness of the information based on all sources available.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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