

Solution M (EliGene® Viral RNA/DNA FAST Isolation Kit, 409100)

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**1.1 Product information**

Commercial Product Name: Solution M (EliGene® Viral RNA/DNA FAST Isolation Kit, 409100)
REACH No.: 01-2119517582-41-XXXX

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

Use of the Substance: Laboratory chemicals not in a nanoform

1.3 Details of the supplier of the safety data sheet

Company: ELISABETH PHARMACON, spol. s r.o.
Rokycanova 4437/5, 615 00 Brno,
Czech Republic

Telephone: +420 542 213 851

Fax: +420 542 213 827

E-mail: info@elisabeth.cz

1.4 Emergency telephone number

Centre for detoxification Prague: +420 224 91 92 93/ +420 224 91 54 02

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Oral (Category 3)	H301
Acute toxicity, Inhalation (Category 3)	H331
Acute toxicity, Dermal (Category 2)	H310
kin irritation (Category 2)	H315
Serious eye damage (Category 1)	H318
Skin sensitisation (Sub-category 1A)	H317
Specific target organ toxicity - repeated exposure, Oral (Category 2), Liver, Heart	H373
Short-term (acute) aquatic hazard (Category 1)	H400
Long-term (chronic) aquatic hazard (Category 2)	H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:



Signal Word: Danger

Hazard Statements: H301 + H331 Toxic if swallowed or if inhaled.
H310 Fatal in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

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H318 Causes serious eye damage.
 H373 May cause damage to organs (Liver, Heart) through prolonged or repeated exposure if swallowed.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements (P statements)

P201 Obtain special instructions before use.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray
 P262 Do not get in eyes, on skin, or on clothing.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
 P302 + P350 + P310 IF ON SKIN: Gently wash with soap and water. Immediately call a POISON CENTER/doctor.
 P305 + P338 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Rinse cautiously with water for several minutes

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. Stench. Stench., Rapidly absorbed through skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Hazardous components

Chemical Name	CAS- No. EC-No. Registration number	Concentration (%)
2-Mercaptoethanol	60-24-2	<= 100 %

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Consult a physician.
 Show this data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off immediately with soap and plenty of water.
 Consult a physician.

In case of eye contact: Immediately flush eye(s) with plenty of water.
 Remove contact lenses.
 Protect unharmed eye.
 Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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If swallowed: If accidentally swallowed Do NOT induce vomiting and obtain immediate medical attention.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media: Water Foam Carbon dioxide (CO₂) Dry powder
Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Sulfur oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.3 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment.
Ensure adequate ventilation.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas

6.2 Environmental precautions

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Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For personal protection see section 8. For disposal see section 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Advice on safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Smoking, eating and drinking should be prohibited in the application area.
Provide enough air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations. For precautions see section 2.2.

Advice on protection against fire and explosion: Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition

Hygiene measures: Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

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

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability

Recommended storage temperature 2 - 8 °C

Storage class

Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)

Specific use(s): Laboratory chemicals

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**8.1 Control parameters**

Ingredients with workplace control parameters

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Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Systemic effects	0,17 mg/m ³
Worker DNEL, longterm	inhalation	Systemic effects	0,17 mg/m ³
Worker DNEL, acute	dermal	Systemic effects	
Worker DNEL, longterm	dermal	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,0004 mg/l
Sea water	0,00004 mg/l
Aquatic intermittent release	0,004 mg/l
Sewage treatment plant	60 mg/l
Fresh water sediment	0,0015 mg/kg
Sea sediment	0,00015 mg/kg
Soil	0,000063 mg/kg

8.2 Exposure controls

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 120 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

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protective clothing

Respiratory protection

Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

a) Physical state	liquid
b) Color	colorless
c) Odor	characteristic
d) Melting point/freezing point	Melting point: < -50 °C
e) Initial boiling point and boiling range	157 °C
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	Upper explosion limit: 18 %(V) Lower explosion limit: 2,3 %(V)
h) Flash point	74 °C - closed cup
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	4,5 - 6 at 500 g/l at 20 °C
l) Viscosity Viscosity, kinematic:	No data available
Viscosity, dynamic:	3,4 mPa.s at 20 °C
m) Water solubility at 20 °C	soluble
n) Partition coefficient:	n-octanol/water log Pow: -0,056 at 25 °C - Bioaccumulation is not expected.
o) Vapor pressure	0,76 hPa at 20 °C
p) Density	1,11 g/cm ³ at 20 °C
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none

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9.2 Other safety information

Relative vapour density 2,70 - (Air = 1.0)

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents

A risk of explosion and/or of toxic gas formation exists with the following substances: Acids

10.4 Conditions to avoid

Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid: No data available.

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Product:

LD50 Oral - Mouse - 190 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male - 4 h - 2,05 mg/l

Remarks: (ECHA)

LD50 Dermal - Rabbit - male and female - 112 - 224 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe irritations (Draize Test)

Remarks: (External MSDS)

Risk of corneal clouding.

Respiratory or skin sensitisation

Maximisation Test - Guinea pig

Result: positive (OECD Test Guideline 406)

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Germ cell mutagenicity

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Suspected of damaging the unborn child.

Suspected of damaging fertility.

STOT - single exposure

Ingestion - May cause damage to organs through prolonged or repeated exposure. - Liver, Heart

Oral - Liver, Heart

Aspiration toxicity

No data available

Further information

Repeated dose toxicity - Rat - male and female - Oral - 49 d - No observed adverse effect level - 15 mg/kg - Lowest observed adverse effect level - 50 mg/kg

RTECS: KL5600000

Systemic effects:

CNS disorders, Nausea, Vomiting, Convulsions, narcosis

The following applies to mercaptans in general: offensive odour.

Other dangerous properties cannot be excluded.

This substance should be handled with particular care.

11.2 Information on other hazards**Endocrine disrupting properties****Product:**

Assessment: 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.

Repeated dose toxicity - Rat - male and female - Oral - 49 d - NOAEL (No observed adverse effect level) - 15 mg/kg - LOAEL (Lowest observed adverse effect level) - 50 mg/kg

RTECS: KL5600000

Burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Weakness, Unconsciousness, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects: CNS disorders, Nausea, Vomiting, Convulsions, narcosis

The following applies to mercaptans in general: offensive odour.

Other dangerous properties cannot be excluded.

This substance should be handled with particular care.

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SECTION 12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to fish: Static test LC50 - Leuciscus idus (Golden orfe) - 37 mg/l - 96 h
(DIN 38412 T15)

Toxicity to algae: Static test ErC50 - Desmodesmus subspicatus (green algae) – 19 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to bacteria: Static test EC50 - Pseudomonas putida - 125 mg/l - 17 h
(DIN 38 412 Part 8)

12.2 Persistence and degradability

Biodegradability aerobic - Result: 69 % - (OECD Test Guideline 310)	Exposure time 60 d Rapidly biodegradable
Biochemical Oxygen Demand (BOD)	105 mg/g Remarks: (IUCLID)
Chemical Oxygen Demand (COD)	1,894 mg/g Remarks: (IUCLID)

12.3 Bioaccumulative potential

Product:
Bioaccumulation: No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

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 Endocrine disrupting properties**Product:**

Assessment: 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.

12.7 Other adverse effects

Additional ecological information: Very toxic to aquatic organisms. Avoid release to the environment.

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SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. TRANSPORT INFORMATION**14.1 UN number or ID number**

ADR/RID: 2966

IMDG: 2966

IATA: 2966

14.2 UN proper shipping name

ADR/RID: THIOGLYCOL

IMDG: THIOGLYCOL

IATA: THIOGLYCOL

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

14.7. Maritime transport in bulk according to IMO instruments

No data available

SECTION 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

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

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: ACUTE TOXIC :ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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SECTION 16. OTHER INFORMATION**Full text of H-Statements**

H301	Toxic if swallowed.
H301 + H331	Toxic if swallowed or if inhaled.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

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; AIIIC - Australian Inventory of Industrial Chemicals; 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; 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; 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

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 regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. Elisabeth Pharmacon company shall not be held liable for any damage resulting from handling or from contact with the above product.