

	MATERIAL SAFETY DATA SHEET in accordance with Regulation (EC) No 1907/2006 and Regulation (EU) No 830/2015 viRNAtrap™ Extraction Kit	MSDS issue date: 9. 11. 2020 MSDS review date: Version: 1.0
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SECTION 1 Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product trade name: viRNAtrap™ Extraction Kit
Catalogue no.: 3315-100, and 3315-500
Components: viRNAtrap™ Lysis Buffer (30 ml, and 150 ml)
Wash Buffer 1 (12 ml, and 30 ml)
Wash Buffer 2 (3 ml, and 15 ml)
Elution Buffer (15 ml, and 75 ml)

1.2. Relevant purposes of use of the substance or mixture and non-recommended use

Use of the substance or mixture: SU 0-2 Other economic activity not related to chemical substances.
PC 21 Laboratory chemicals
PROC 15 Use as laboratory reagent

Non-recommended use: All use other than recommended.

1.3. Detailed information about the material safety data sheet supplier

Supplier identification:

Business name: **GENERI BIOTECH s.r.o.**
Address: Hradec Králové – Třebeš, Machkova 587/42, Post code 500 11,
Czech Republic
Identification no.: 632 21 667
Telephone no.: +420 495 056 314
E-mail: info@generi-biotech.com

1.4. Emergency telephone numbers

Medical rescue emergency: **155** (Czech Republic)
Fire rescue emergency: **150** (Czech Republic)
Police: **158** (Czech Republic)
European emergency line: **112**

Toxicological information centre:

Phone: **+420 224 919 293; +420 224 915 402** (Czech Republic)
Fax: +420 224 914 570
Residence: Klinika pracovního lékařství 1. LF UK a VFN, Na Bojišti 1, 120 00 Praha 2, Czech Republic

SECTION 2 Hazards identification

2.1. Classification of the mixture

Classification of a mixture in accordance with Regulation (EC) 1272/2008:

Hazardous feature: Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2
H-Phrases: H302 + H332, H315, H319

The most important physicochemical effects:

Not known.

The most important negative effects on human health:

Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation.

The most important negative effects on environment:

Not known.

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Components classification in accordance with Regulation (EC) 1272/2008:

Component viRNAtrap™ Lysis Buffer

Hazardous feature: Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2
H-Phrases: H302 + H332, H315, H319

The most important physicochemical effects:

Not known.

The most important negative effects on human health:

Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation.

The most important negative effects on environment:

Not known.

Component Wash Buffer 1

Hazardous feature: Not known.
H-Phrases: Not assigned.

The most important physicochemical effects:

Not known.

The most important negative effects on human health:

Not known.

The most important negative effects on environment:

Not known.

Component Wash Buffer 2

Hazardous feature: Not known.
H-Phrases: Not assigned.

The most important physicochemical effects:

Not known.

The most important negative effects on human health:

Not known.

The most important negative effects on environment:

Not known.

Component Elution Buffer

Hazardous feature: Not known.
H-Phrases: Not assigned.

The most important physicochemical effects:

Not known.

The most important negative effects on human health:

Not known.

The most important negative effects on environment:

Not known.

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2.2. Label elements

Classification of a mixture in accordance with Regulation (EC) 1272/2008:

Warning sign:

GHS07



Signal word:

Warning

H-Phrases:

H302 + H332, H315, H319

P-Phrases:

P280, P301 + P330, P304 + P340, P302 + P352, P305 + P351 + P338,
P337 + P313, P312

Components classification in accordance with Regulation (EC) 1272/2008:

Component viRNAtrap™ Lysis Buffer

Warning sign:

GHS07



Signal word:

Warning

H-Phrases:

H302 + H332, H315, H319

P-Phrases:

P280, P301 + P330, P304 + P340, P302 + P352, P305 + P351 + P338, P337 +
P313, P312

Component Wash Buffer 1

Warning sign: Not assigned.

Signal word: Not assigned

H-Phrases: Not assigned.

Component Wash Buffer 2

Warning sign: Not assigned.

Signal word: Not assigned

H-Phrases: Not assigned.

Component Elution Buffer

Warning sign: Not assigned.

Signal word: Not assigned

H-Phrases: Not assigned.

Full wording of P- and H-Phrases abbreviations is stated in SECTION 16.

2.3. Other hazards

Not known.

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SECTION 3 Composition/Information on ingredients

3.1. Substances

Product name:

Registration Number:

Other identification data of hazardous substances:

Index Number CAS EC number Registration number	Chemical name	Concentration (% weight)	Classification in accordance with EC 1272/2008
-	-	-	-

3.2. Mixtures

Product name: viRNAtrap™ Extraction Kit

Catalogue number: 3315-100, and 3315-500

Other identification data of hazardous substances:

Component name	Index Number CAS EC number (Pre)registration number	Chemical name	Concentration (% weight)	Classification in accordance with EC 1272/2008
viRNAtrap™ Lysis Buffer	607-148-00-0 50-01-1 200-002-3 -	guanidine hydrochloride	50–70	Acute Tox. 4 (H302+H332), Skin Irrit. 2 (H315), Eye Irrit. 2 (H319)
Lysis Buffer	-	Contains no hazardous substances	0,1–1	Not classified
Wash Buffer 1	-	Contains no hazardous substances	0,1–1	Not classified
Wash Buffer 2	-	Contains no hazardous substances	0,1–1	Not classified

Full wording of P- and H-Phrases abbreviations is stated in SECTION 16.

SECTION 4 First aid measures

4.1. Description of first aid measures

General information:

Symptomatic treatment. Consult a physician. Show this safety data sheet to the doctor in attendance.

In case of inhalation:

Remove the person afflicted to fresh air, keep him/her calm, warm and in comfortable position. If needed, start resuscitation. If difficulties persist, seek medical advice.

In case of contact with skin:

Remove contaminated clothing. Wash irritated skin with warm water and soap for 15 minutes. Irritated place may be covered with loose bandage. If difficulties persist, seek medical advice.

In case of contact with eyes:

Rinse eyes immediately with sufficient amount of water for at least 15 minutes while lifting both upper and lower eyelids. If irritation persists, seek medical advice.

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In case of ingestion:

Do not induce vomiting. Wash out mouth and drink larger amount of water. Seek medical help. Do not administer anything orally to unconscious person.

Protection of first aid providers:

Based on the extent of the provided aid it is necessary to use protective equipment. Wash your hands thoroughly when finished providing first aid. In case your clothes are contaminated during providing first aid, change your clothes.

Other information:

Further details about providing first aid, especially in severe cases, may be consulted with Toxicological information centre, **nonstop telephone line:** +420 224 919 293, +420 224 915 402, fax +420 224 914 570 (Czech Republic).

4.2. The most important acute and delayed symptoms and effects

Gastrointestinal difficulties, diarrhoea, vomiting, irritation.

4.3. Directions regarding immediate medical help and special treatment

See SECTION 4.1

SECTION 5 Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Foam, dispersed water stream, dry powder, carbon dioxide.

Unsuitable extinguishing media: Full water stream – fire could spread.

5.2. Special hazards arising from substance or mixture

Hazardous combustion products: In case of fire may be liberated: nitrogen oxides (NO_x), hydrogen chloride (HCl), May produce toxic fumes of carbon monoxide if burning.

5.3. Advice for firefighters

Fight fire with normal precautions from a reasonable distance. If needed, wear self-contained breathing apparatus.

5.4. Other information

Not available.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Protective equipment: Use personal protective equipment. Avoid the spread of gas / mist / vapours / liquids. Provide adequate ventilation. For personal protection see SECTION 8.

Emergency procedures: In case of spilling or fire evacuate the area. Prevent access of unauthorized people.

6.1.2 For emergency personnel:

Protective equipment: In case of spilling or fire use complete protective overall and breathing apparatus. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent leakage into soil, surface and ground water and sewerage.

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6.3. Methods and material for containment and cleaning up

6.3.1 Methods for containment:

Store in a resealable container. In case of spilling prevent entering sewerage.

6.3.2 Cleaning up methods:

Soak up with inert absorbent material (sand, diatomaceous earth, etc.). Place the used sorbent into suitable container and mark it as a hazardous waste. Dispose of in accordance with valid waste management regulations.

Disposal - see SECTION 13

6.4. Reference to sections

Detailed information is available in SECTIONS 8 and 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

7.1.1 Safety measures

Precautions for prevention of aerosol and dust forming: Ensure sufficient ventilation of workplace.
Environmental precautions: Prevent release into environment.

7.1.2 Directions regarding general work hygiene

Respect safety rules and use protective means when manipulating the substance. Do not inhale vapours and aerosols. Do not eat, drink or smoke while at workplace. Wash your hands and face when finished working. Wash stained clothing and clean footwear before next use. Apply regenerating cream on your hands.

7.2. Conditions for safe substance and mixture storage, including incompatible substances and mixtures

Technical precautions and storage conditions: Store in dry and well ventilated place at normal temperature and keep away from sun radiance. Keep the product away from food, beverages, fodders and medications.

Packaging materials: Store in closed and properly marked container. Emptied containers may contain residues of the product that may be hazardous.

Requirements for storage space and storage containers: Storage space must meet valid legal requirements. Containers must be resealable.

Other information about storage conditions:

Prevent contact with strong acids, strong bases and oxidizing agents. Store at room temperature.

7.3. Specific end use(s)

See SECTION 1.2.

SECTION 8 Exposure controls / Personal protection

8.1. Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Not available.

Relevant DNELs/DMELs/PNECs and other threshold levels

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Relevant DNELs of components of the mixture:

Name of substance	CAS No.	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Guanidine hydrochloride	50-01-1	DNEL	3,5 mg/m ³	human, inhalatory	worker (industry)	chronic – systemic effects
Guanidine hydrochloride	50-01-1	DNEL	10,5 mg/m ³	human, inhalatory	worker (industry)	acute – systemic effects
Guanidine hydrochloride	50-01-1	DNEL	1 mg/kg TH/den	human, inhalatory	worker (industry)	chronic – systemic effects

8.2. Exposure control

8.2.1 Personal protective means:

8.2.1.1 Eyes and face protection

Use safety goggle with side protection.

8.2.1.2 Skin protection

Hands protection: protective chemicals-proof working gloves (PVC, natural latex, neoprene, nitrile)

Additional hand protection measures: Preventive skin protection with creams/ointments is recommended

Other skin protection: safety antistatic work clothing and work footwear

8.2.1.3 Respiratory protection

In case of insufficient ventilation wear mask with safety filter of A/AX class (against organic gases and vapours with a boiling point of > 65 °C).

8.2.2 Environmental exposure control

Prevent soil and water contamination.

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Component viRNAtrap™ Lysis Buffer:

Appearance:	liquid, colourless
Odour:	characteristic
Odour threshold:	not determined
pH:	5 (water: 200 g/l, 25 °C)
Melting point/Freezing point:	-18 °C
Initial boiling point and boiling range:	110–115 °C at 1.013 hPa
Flash point:	not determined
Evaporation rate:	not determined
Flammability (solid, gas):	not relevant (fluid)
Upper/lower flammability/explosive limits:	not determined
Vapour pressure:	not determined
Vapour density:	23 hPa at 20 °C
Density:	1,16 g/cm ³ at 20 °C
Solubility:	not determined
Partition coefficient n-octanol/water:	not determined
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
Viscosity:	not determined
Explosive properties:	not classified as explosive
Oxidising properties:	not determined

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Other components: information not determined

9.2. **Other information**

Not available.

SECTION 10 Stability and reactivity

10.1. **Reactivity**

The substance is non-reactive in normal ambient conditions.

10.2. **Chemical stability**

The substance is stable in normal ambient conditions.

10.3. **Possibility of hazardous reactions**

Violent reaction with: alkali (lye), oxidisers, strong acids.

10.4. **Conditions to avoid**

Not known. Follow the storage conditions listed in SECTION 7.

10.5. **Incompatible materials**

Not known.

10.6. **Hazardous decomposition products**

If stored in the original packaging, there are not known any hazardous decomposition products.

SECTION 11 Toxicological information

11.1. **Information on toxicological effects**

Component viRNAtrap™ Lysis Buffer:

Acute toxicity: category 4 – oral and inhalation
Guanidine hydrochloride: LD₅₀ (orally, rat) 475 mg/kg
LD₅₀ (inhaled, rat) 5.3 mg/m³ (4 hrs)
LD₅₀ (dermally, rabbit) >2000 mg/kg

Skin corrosion/irritation: category 2

Serious eye damage/irritation: category 2

Respiratory or skin sensitisation: not determined

Germ cell mutagenicity: not determined

Carcinogenicity: not determined

Reproductive toxicity: not determined

STOT-single exposure: not determined

STOT-repeated exposure: not determined

Aspiration hazard: not determined

Information on likely routes of exposure: not determined

Symptoms related to the physical, chemical and toxicological characteristics:

If swallowed – diarrhoea, vomiting, gastrointestinal complaints, cardiac arrhythmias, vertigo

If in eyes – causes serious eye irritation

If inhaled – data are not available

If on skin – causes skin irritation

Delayed and immediate effects as well as chronic effects from short and long-term exposure: not known

Other components: information not available

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SECTION 12 Ecological information

12.1. Toxicity

Component viRNAtrap™ Lysis Buffer:

Guanidine hydrochloride:	EC ₅₀ (aquatic invertebrates, 48 h)	70,2 mg/l
	ErC ₅₀ (algae, 72 h)	33,5 mg/l

Other components: information not available

12.2. Persistence and degradability

Not available.

12.3. Bioaccumulative potential

Component viRNAtrap™ Lysis Buffer:

Guanidine hydrochloride:	Log KOW	< -1,7 (pH value: 7,4, 20 °C)
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Other components: information not available

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

Not available.

12.6. Other adverse effects

Not available.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

13.1.1 Product/container disposal:

Product disposal methods: The product must be disposed of in accordance with valid and effective waste management law and related legal regulations.

Contaminated container disposal methods: The container must be disposed of in accordance with valid and effective waste management law and related legal regulations.

Other information: All waste must be handed over to a subject licensed for waste management. Waste marking must correspond with valid identifiers stated in waste catalogue.

13.1.2 Important information for waste management:

Residues of the substance and container should be treated as a waste.

SECTION 14 Transport information

14.1. UN number

Not subject to transport regulations.

14.2. UN proper shipping name

Not relevant.

14.3. Transport hazard class(es)

Not relevant.

14.4. Packing group

Not relevant.

14.5. Environmental hazards

Non-environmentally hazardous acc to the dangerous goods regulations.

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14.6. Special precautions for user

Not available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

14.8. Information for each of the UN Model Regulations

Transport of dangerous good by road, rail an inland waterway (ADR/RID/ADN):

Not subject to ADR, RID a ADN.

International Maritime Dangerous Good Code (IMDG):

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR):

Not subject to ICAO-IATA.

SECTION 15 Regulatory information

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

Act No. 350/2011 Coll. (Czech Republic) on chemicals and chemical mixtures.

Act No. 185/2001 Coll. (Czech Republic) on waste, as amended.

Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, as amended.

Commission Regulation (EU) No. 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

European Parliament and of the Council Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Regulation (EU) No 2015/830 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Act No. 93/2012 Coll. (Czech Republic), amending Act No. 361/2007 Coll., which states health protection conditions, as amended by Act No. 68/2010 Coll.

Regulation No. 93/2016 Coll. (Czech Republic) waste catalogue, as amended

Regulation No. 94/2016 Coll. (Czech Republic) on hazardous waste assessment, as amended

Regulation No. 383/2001 Coll. (Czech Republic) on waste management details, as amended.

Regulation No. 237/2002 Coll. (Czech Republic) on details of reclaim methods of some products, as amended.

15.2. Chemical safety assessment

Not executed yet.

SECTION 16 Other information

16.1 Classification and methods use for derivation of mixture classification in accordance with Regulation (EC) 1272/2008 [CLP]:

Full wording of H-Phrases and P-Phrases stated in SECTIONS 2 and 3:

H302 + H332	Harmful if swallowed or inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330	IF SWALLOWED: Rinse mouth.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable per breathing.
P302 + P352	IF ON SKIN: Wash with plenty of water.

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P305 + P351 +P338

IF IN EYES: Rinse with water cautiously for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.

P337 + P313
P312

16.2 Training instructions:

Inform employees about the content of this safety data sheet and about general rules concerning treatment of chemicals and formulations. Carry out training at least once a year.

16.3 Abbreviations:

Acute Tox. 4	Acute toxicity, category 4
Eye Irrit. 2	Severe eye damage/eye irritation, category 2
Skin Irrit. 2	Skin corrosion/irritation, category 2
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
DMEL	Derived Minimal Effect Level
DNEL	Derived Minimal Effect Level
EC ₅₀	Medium effective concentration, maximum effect in 50 % of individuals observed
ErC ₅₀	Concentration of test substance which results in a 50 % reduction in growth rate relative to the control
LD ₅₀	Lethal dose, causing death of 50 % of tested individuals
PBT	Persistent, bioaccumulative and toxic
PNEC	Supposed no-effect concentration
vPvB	Highly persistent and highly bioaccumulative
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
DGR	Dangerous Goods Regulations
IBC	IBC Code, 2007 edition, London, IMO 2007, ISBN 978-92-801-4226-6
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships
RID	Regulations concerning the International carriage of Dangerous goods by Rail

16.4 Other information

Information provided in this safety data sheet is based on the state of manufacturer's knowledge and experience as of the date of issue of this document. It does not represent any contract guarantee on product's qualitative features and is valid only in connection with usual manipulation under normal conditions and with data specified in technical manual. Any other use of this product, eventually in combination with other products and methods, is user's own responsibility.