

# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

#### **SECTION 1. IDENTIFICATION**

Product name : MagNA Pure LC DNA Isolation Kit I

Product code : 03003990001

Manufacturer or supplier's details

Company name of supplier : Roche Diagnostics

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Address : 9115 Hague Road

Indianapolis, IN 46250

USA

Telephone : 1-800-428-5074

Emergency telephone

In case of emergencies: : CHEMTREC 1-800-424-9300 (U.S. or Ca-

nada)

1-703-527-3887 (Internatio-

nal)

Recommended use of the chemical and restrictions on use

Restrictions on use : For professional users only.

### **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

The product is a kit consisting of individual ingredients. The classification of the ingredients can be obtained from section 3. Section GHS Label elements contains the resulting labelling for the kit

# **GHS** label elements

Hazard pictograms :









Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.

H302 + H332 Harmful if swallowed or if inhaled. H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing diffi-

culties if inhaled.

H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.

H350 May cause cancer.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

**Precautionary Statements** 

#### Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P285 In case of inadequate ventilation wear respiratory protection.

### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

## Disposal:

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



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

# Other hazards

None known.

## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

# Wash Buffer I (WB I)

#### **GHS Classification**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Carcinogenicity : Category 1A

## Components

Chemical name	CAS-No.	Concentration (% w/w)
Guanidine, hydrochloride (1:1)	50-01-1	>= 30 - < 50
Ethanol	64-17-5	>= 20 - < 30

Actual concentration is withheld as a trade secret

# Wash Buffer II (WB II)

#### **GHS Classification**

Flammable liquids : Category 3

Eye irritation : Category 2A

Carcinogenicity : Category 1A

## Components

Chemical name	CAS-No.	Concentration (% w/w)
Ethanol	64-17-5	>= 30 - < 50

Actual concentration is withheld as a trade secret

# Lysis/Binding Buffer

# **GHS Classification**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

# Components



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Chemical name	CAS-No.	Concentration (% w/w)
Thiocyanic acid, compd. with guani-	593-84-0	>= 30 - < 50
dine (1:1)		
Poly(oxy-1,2-ethanediyl), .alpha[4-	9002-93-1	>= 20 - < 30
(1,1,3,3-tetramethylbutyl)phenyl]-		
.omegahydroxy-		

Actual concentration is withheld as a trade secret

# Proteinase K

**GHS Classification** 

Skin irritation : Category 2

Eye irritation : Category 2A

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Specific target organ toxicity : Category 3 (Respiratory system)

- single exposure

# Components

Chemical name	CAS-No.	Concentration (% w/w)
Proteinase K	39450-01-6	>= 70 - < 90

Actual concentration is withheld as a trade secret

# Magnetic Glass Particles (MGPs) Suspension

**GHS Classification** 

Flammable liquids : Category 2

Eye irritation : Category 2A

Specific target organ toxicity : Category 3 (Central nervous system)

- single exposure

## Components

Chemical name	CAS-No.	Concentration (% w/w)
2-Propanol	67-63-0	>= 90 - <= 100

Actual concentration is withheld as a trade secret

# **Elution Buffer**

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

No hazardous ingredients



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

### **SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.

Consult a physician.

Show this material safety data sheet to the doctor in atten-

dance.

Do not leave the victim unattended.

If inhaled : Call a physician or poison control center immediately.

Move to fresh air.

If unconscious, place in recovery position and seek medical

advice.

In case of skin contact : Immediate medical treatment is necessary as untreated

wounds from corrosion of the skin heal slowly and with difficul-

ty.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tis-

sue damage and blindness.

In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do NOT induce vomiting.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician. Take victim immediately to hospital.

Most important symptoms and effects, both acute and

delayed

No information available.

Notes to physician : The first aid procedure should be established in consultation

with the doctor responsible for industrial medicine.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Alcohol-resistant foam

Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Specific hazards during fire

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod: :

ucts

In case of fire hazardous decomposition products may be

produced such as: Carbon oxides

Nitrogen oxides (NOx)

Sulfur oxides

Hydrogen cyanide (hydrocyanic acid)

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored sepa-

rately in closed containments.

Use a water spray to cool fully closed containers.

Special protective equipment :

for fire-fighters

Wear self-contained breathing apparatus for firefighting if

necessary.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

gency procedures

Use personal protective equipment.

Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Refer to protective measures listed in sections 7 and 8. Beware of vapors accumulating to form explosive concentrati-

ons. Vapors can accumulate in low areas.

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, ver-

miculite) and place in container for disposal according to local

/ national regulations (see section 13).

# **SECTION 7. HANDLING AND STORAGE**

Advice on protection against : fire and explosion

: Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge

(which might cause ignition of organic vapors).

Use only explosion-proof equipment.

Keep away from open flames, hot surfaces and sources of

ignition.

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapors/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Smoking, eating and drinking should be prohibited in the application area.

Take precautionary measures against static discharges. Provide sufficient 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.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

To prevent leaks or spillages from spreading, provide a suitable liquid retention system.

Conditions for safe storage

No smoking.

Keep container tightly closed in a dry and well-ventilated pla-

ce.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage.

Electrical installations / working materials must comply with

the technological safety standards.

Further information on stor-

age conditions

See label, package insert or internal guidelines

Further information on stor-

age stability

No decomposition if stored and applied as directed.

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

# Wash Buffer I (WB I)

## Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0
		STEL	1,000 ppm	ACGIH

# **Predicted No Effect Concentration (PNEC):**

Substance name	Environmental Compartment	Value
Ethanol	Fresh water	0.96 mg/l

# Wash Buffer II (WB II)

# Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parame- ters / Permissible	Basis
		exposure)	concentration	



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0
		STEL	1,000 ppm	ACGIH

# **Predicted No Effect Concentration (PNEC):**

Substance name	Environmental Compartment	Value
Ethanol	Fresh water	0.96 mg/l

# Lysis/Binding Buffer

# Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Thiocyanic acid, compd. with guanidine (1:1)	593-84-0	IOEL	100 microgram per cubic meter	Category 1 (Roche Group Direc- tive K1, An- nex 3): OEL = 100 µg/m3

# Proteinase K

# Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Proteinase K	39450-01-6	IOEL	0.00006 mg/m3	Roche In- dustrial Hy- giene Com- mittee (RIHC)

# Magnetic Glass Particles (MGPs) Suspension

# Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-Propanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1
		TWA	400 ppm 980 mg/m3	OSHA P0
		STEL	500 ppm 1,225 mg/m3	OSHA P0



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

# **Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
2-Propanol	67-63-0	Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

# **Predicted No Effect Concentration (PNEC):**

Substance name	Environmental Compartment	Value	
Isopropanol	Fresh water	140.9 mg/l	

# **Elution Buffer**

# Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

**Engineering measures** : No data available

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an appro-

ved filter.

Hand protection

In case of contact through splashing:

Material : Nitrile rubber
Break through time : > 30 min
Glove thickness : > 0.11 mm

In case of full contact:

Material : butyl-rubber
Break through time : > 480 min
Glove thickness : > 0.4 mm

Remarks : Wear appropriate protective gloves to prevent skin contact.

Replace torn or punctured gloves promptly.

Eye protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Skin and body protection : Impervious clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

## Wash Buffer I (WB I)



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Appearance : liquid

Color : colorless

Odor : characteristic

Odor Threshold : No data available

pH : 6.6 (77 °F / 25 °C)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : 84 °F / 29 °C

Evaporation rate : No data available

Self-ignition : 797 °F / 425 °C

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower :

flammability limit

No data available

Vapor pressure : 43 hPa

Relative vapor density : No data available

Relative density : No data available

Density : 1.057 g/cm3

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

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

Wash Buffer II (WB II)

Appearance : liquid

Color : colorless

Odor : characteristic

Odor Threshold : No data available

pH : 7.4

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : 77 °F / 25 °C

Evaporation rate : No data available

Self-ignition : 797 °F / 425 °C

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : 43 hPa

Relative vapor density : No data available

Relative density : No data available

Density : 0.93 g/cm3

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : No data available

Decomposition temperature : No data available



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

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

Lysis/Binding Buffer

Appearance : liquid

Color : colorless

Odor : odorless

Odor Threshold : No data available

pH : 6.0 - 7.0

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : The product is not flammable.

Flammability (liquids) : Does not sustain combustion.

Self-ignition : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : No data available

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : Hazardous decomposition products formed under fire conditi-

ons

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.

Proteinase K

Appearance : solid, (lyophilized)

Color : white

Odor : very faint

Odor Threshold : Not applicable

pH : 6.5

(as aqueous solution)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : does not flash

Evaporation rate : No data available

Flammability (solid, gas) : Sustains combustion

Flammability (liquids) : Sustains combustion

Self-ignition : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower : No data available



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

flammability limit

Vapor pressure : No data available

Relative vapor density : Not applicable

Relative density : No data available

Bulk density : ca. 35 kg/m3

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : Decomposes on heating.

Viscosity

Viscosity, dynamic : Not applicable

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

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

# Magnetic Glass Particles (MGPs) Suspension

Appearance : suspension

Color : black

Odor : strong

Odor Threshold : No data available

pH : No data available

Melting point/range : -128 °F / -89 °C

Boiling point/boiling range : 180 °F / 82 °C

Flash point :  $54 \, ^{\circ}\text{F} / 12 \, ^{\circ}\text{C}$ 



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Evaporation rate : No data available

Self-ignition : 905 °F / 485 °C

Upper explosion limit / Upper

flammability limit

12 %(V)

Lower explosion limit / Lower :

flammability limit

2 %(V)

Vapor pressure : 42 hPa (68 °F / 20 °C)

Relative vapor density : No data available

Relative density : No data available

Density : 0.78 g/cm3

Solubility(ies)

Water solubility : partly miscible

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : Hazardous decomposition products formed under fire conditi-

ons.

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

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

**Elution Buffer** 

Appearance : liquid

Color : colorless

Odor : none

Odor Threshold : No data available

pH : 8.0



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : The product is not flammable.

Flammability (liquids) : Does not sustain combustion.

Self-ignition : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : No data available

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition 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.

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of normal use.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

Toxic gases may be released if in contact with the following:

Acids

Oxidizing agents sodium hypochlorite

Contact with acids liberates very toxic gas.

Alkali metals

Alkaline earth metals

Peroxides
Nitric acid
Amines
Aldehydes
Aluminum
Iron

Reacts violently with peroxides.

No decomposition if stored and applied as directed.

Vapors may form explosive mixture with air.

Conditions to avoid : Exposure to light.

Exposure to moisture.

Heat, flames and sparks.

Incompatible materials : Strong acids

Strong oxidizing agents

Cyanides Peroxides Aluminum Alkali metals

Alkaline earth metals

Iron Amines Aldehydes Nitric acid

sodium hypochlorite

Hazardous decomposition

products

Thermal decomposition can lead to release of irritating gases

and vapors.

In case of fire hazardous decomposition products may be

produced such as: Carbon oxides

Nitrogen oxides (NOx)

Sulfur oxides

Hydrogen cyanide (hydrocyanic acid)

# **SECTION 11. TOXICOLOGICAL INFORMATION**

# Wash Buffer I (WB I)

# **Acute toxicity**

Harmful if swallowed.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

# **Components:**

Guanidine, hydrochloride (1:1):

Acute oral toxicity : LD50 Oral (Rat, female): 475 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute inhalation toxicity : LC50 (Rat, female): 3.2 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

LC50 (Rat, male and female): 5.32 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

LC50 (Rat, male): 7.7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: No mortality observed at this dose.

**Ethanol:** 

Acute oral toxicity : LD50 (Rat, male and female): 10,470 mg/kg

Method: OECD Test Guideline 401

GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): 124.7 mg/l

Exposure time: 4 h

Test atmosphere: vapor Method: OECD Test Guideline 403

GLP: no

Acute dermal toxicity : (Rabbit): 17,100 mg/kg

GLP: No information available.

Remarks: Based on data from similar materials

## Skin corrosion/irritation

Causes skin irritation.

### **Components:**

Guanidine, hydrochloride (1:1):

Species : Rabbit Exposure time : 24 h



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Result : Irritating to skin.

GLP : yes

**Ethanol:** 

Species : Rabbit Exposure time : 24 h

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes

## Serious eye damage/eye irritation

Causes serious eye irritation.

#### Components:

## Guanidine, hydrochloride (1:1):

Species : Rabbit

Result : Irritating to eyes.

Method : OECD Test Guideline 405

GLP : yes

**Ethanol:** 

Species : Rabbit

Result : Irritating to eyes.

Method : OECD Test Guideline 405 GLP : No information available.

# Respiratory or skin sensitization

### Skin sensitization

Not classified based on available information.

# Respiratory sensitization

Not classified based on available information.

# **Components:**

# Guanidine, hydrochloride (1:1):

Test Type : Buehler Test Species : Guinea pig

Assessment : Does not cause skin sensitization.

Method : OECD Test Guideline 406

GLP : yes

**Ethanol:** 

Test Type : Maximization Test Species : Guinea pig

Assessment : Does not cause skin sensitization.

Method : OECD Test Guideline 406

Result : Did not cause sensitization on laboratory animals.

GLP : no

Remarks : Based on data from similar materials



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## Germ cell mutagenicity

Not classified based on available information.

## **Components:**

## Guanidine, hydrochloride (1:1):

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative GLP: yes

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts Method: OECD Test Guideline 473

Result: negative

GLP: no

**Ethanol:** 

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: No information available.

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: No information available.

Genotoxicity in vivo : Test Type: dominant lethal test

Species: Mouse (male) Application Route: Oral

Dose: 10 or 40% ethanol in water Method: OECD Test Guideline 478

Result: negative

GLP: No information available.

Carcinogenicity

May cause cancer.

**Components:** 

Ethanol:

Species : Mouse, male and female

Application Route : inhalation (vapor) Exposure time : 18 month(s)

Control Group : yes

Frequency of Treatment : 19 hours/day

Method : OECD Test Guideline 453

Result : negative



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

GLP : No information available.

Remarks : Based on data from similar materials

IARC Group 1: Carcinogenic to humans

Ethanol 64-17-5

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

# Reproductive toxicity

Not classified based on available information.

### Components:

## Guanidine, hydrochloride (1:1):

Effects on fetal development : Species: Rat, female

Application Route: Oral

Dose: 50, 150, 350 mg/kg bw/day Duration of Single Treatment: 5 - 19 d

Developmental Toxicity: NOAEL: 350 mg/kg body weight

Method: OECD Test Guideline 414

GLP: yes

**Ethanol:** 

Effects on fertility : Test Type: Two-generation study

Species: Mouse, male and female

Application Route: Oral

General Toxicity Parent: NOAEL: 20,700 mg/kg body weight

Method: OECD Test Guideline 416 Result: No effects on fertility. GLP: No information available.

Effects on fetal development : Species: Rat, female

Strain: Sprague-Dawley Application Route: Ingestion

Duration of Single Treatment: 6 Weeks

Developmental Toxicity: NOAEL: 5,200 mg/kg body weight

GLP: No information available.

# STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

## **Components:**

# Guanidine, hydrochloride (1:1):

Species : Rat, male and female

NOAEL : 100 mg/kg



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Application Route : Oral Exposure time : 90 d

Dose : 25, 100, 300 mg/kg bw/day Method : OECD Test Guideline 408

GLP : yes

**Ethanol:** 

Species : Rat, male and female

LOAEL : 3156 mg/kg
Application Route : Oral
Exposure time : 14 Weeks

Dose : 0, 5, 10, 20 mg/Kg

Method : OECD Test Guideline 408

GLP : yes

**Aspiration toxicity** 

Not classified based on available information.

**Further information** 

Wash Buffer II (WB II)

**Acute toxicity** 

Not classified based on available information.

Components:

**Ethanol:** 

Acute oral toxicity : LD50 (Rat, male and female): 10,470 mg/kg

Method: OECD Test Guideline 401

GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): 124.7 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Method: OECD Test Guideline 403

GLP: no

Acute dermal toxicity : (Rabbit): 17,100 mg/kg

GLP: No information available.

Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

**Components:** 

**Ethanol:** 

Species : Rabbit Exposure time : 24 h

Method : OECD Test Guideline 404

Result : No skin irritation

GLP : yes



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## Serious eye damage/eye irritation

Causes serious eye irritation.

### Components:

#### **Ethanol:**

Species : Rabbit

Result : Irritating to eyes.

Method : OECD Test Guideline 405 GLP : No information available.

## Respiratory or skin sensitization

### Skin sensitization

Not classified based on available information.

### Respiratory sensitization

Not classified based on available information.

### Components:

# **Ethanol:**

Test Type : Maximization Test Species : Guinea pig

Assessment : Does not cause skin sensitization.

Method : OECD Test Guideline 406

Result : Did not cause sensitization on laboratory animals.

GLP : no

Remarks : Based on data from similar materials

# Germ cell mutagenicity

Not classified based on available information.

## **Components:**

# Ethanol:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: No information available.

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: No information available.

Genotoxicity in vivo : Test Type: dominant lethal test

Species: Mouse (male) Application Route: Oral

Dose: 10 or 40% ethanol in water Method: OECD Test Guideline 478

Result: negative



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

GLP: No information available.

# Carcinogenicity

May cause cancer.

# **Components:**

Ethanol:

Species : Mouse, male and female

Application Route : inhalation (vapor)
Exposure time : 18 month(s)

Control Group : yes

Frequency of Treatment : 19 hours/day

Method : OECD Test Guideline 453

Result : negative

GLP : No information available.

Remarks : Based on data from similar materials

IARC Group 1: Carcinogenic to humans

Ethanol 64-17-5

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

## Reproductive toxicity

Not classified based on available information.

#### **Components:**

Ethanol:

Effects on fertility : Test Type: Two-generation study

Species: Mouse, male and female

Application Route: Oral

General Toxicity Parent: NOAEL: 20,700 mg/kg body weight

Method: OECD Test Guideline 416 Result: No effects on fertility. GLP: No information available.

Effects on fetal development : Species: Rat, female

Strain: Sprague-Dawley Application Route: Ingestion

Duration of Single Treatment: 6 Weeks

Developmental Toxicity: NOAEL: 5,200 mg/kg body weight

GLP: No information available.

### STOT-single exposure

Not classified based on available information.

# STOT-repeated exposure

Not classified based on available information.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## Repeated dose toxicity

### **Components:**

**Ethanol:** 

Species : Rat, male and female

LOAEL : 3156 mg/kg Application Route : Oral

Exposure time : 14 Weeks

Dose : 0, 5, 10, 20 mg/Kg
Method : OECD Test Guideline 408

GLP : yes

### **Aspiration toxicity**

Not classified based on available information.

#### **Further information**

# Lysis/Binding Buffer

### **Acute toxicity**

Harmful if swallowed or if inhaled.

## **Components:**

# Thiocyanic acid, compd. with guanidine (1:1):

Acute oral toxicity : LD50 Oral (Rat, female): 593 mg/kg

Method: OECD Test Guideline 401

Symptoms: Vomiting

GLP: yes

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract., The compo-

nent/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after

single contact with skin.

# Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-:

Acute oral toxicity : LD50 Oral (Rat): 1,900 - 5,000 mg/kg

Acute toxicity estimate: 500 mg/kg

Method: Expert judgment

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3,000 mg/kg

# Skin corrosion/irritation

Causes severe burns.

# Components:

# Thiocyanic acid, compd. with guanidine (1:1):

Species : Rabbit Exposure time : 4 h

Method : OECD Test Guideline 404



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 10-08-2021 Date of first issue: 11-08-2015

Result : Corrosive after 1 to 4 hours of exposure

GLP : yes

### Serious eye damage/eye irritation

Causes serious eye damage.

### Components:

## Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-:

Result : Risk of serious damage to eyes.
Remarks : May cause irreversible eye damage.

# Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

### Respiratory sensitization

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

# Thiocyanic acid, compd. with guanidine (1:1):

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: yes

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

GLP: no

Test Type: gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

## Carcinogenicity

Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

# Reproductive toxicity

Not classified based on available information.

## Components:

# Thiocyanic acid, compd. with guanidine (1:1):

Effects on fertility : Species: Rat, female

**Application Route: Oral** 

Dose: 25 GLP: no

Remarks: No significant adverse effects were reported

Based on data from similar materials

Effects on fetal development : Species: Rat, female

**Application Route: Oral** 

Dose: 50, 150, 350 mg/kg bw/day

General Toxicity Maternal: NOAEL: 150 mg/kg bw/day Embryo-fetal toxicity.: NOAEL: 350 mg/kg body weight

Method: OECD Test Guideline 414

GLP: yes

# STOT-single exposure

Not classified based on available information.

# STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

# **Components:**

# Thiocyanic acid, compd. with guanidine (1:1):

Species : Rat, male and female

NOAEL : 100 mg/kg
Application Route : Oral
Exposure time : 90 d
Number of exposures : daily

Dose : 25, 100, 300 mg/kg bw/day Method : OECD Test Guideline 408

GLP : yes

# **Aspiration toxicity**

Not classified based on available information.

## Proteinase K

# **Acute toxicity**

Not classified based on available information.

#### Skin corrosion/irritation

Causes skin irritation.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## **Components:**

**Proteinase K:** 

Result : Irritating to skin.

Remarks : May cause skin irritation and/or dermatitis.

# Serious eye damage/eye irritation

Causes serious eye irritation.

#### **Components:**

Proteinase K:

Result : Irritating to eyes.

Remarks : May cause irreversible eye damage.

### Respiratory or skin sensitization

## Skin sensitization

May cause an allergic skin reaction.

## Respiratory sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## **Components:**

Proteinase K:

Assessment : May cause sensitization by skin contact.

Remarks : Causes sensitization.

Assessment : May cause sensitization by inhalation.

## Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

## Reproductive toxicity

Not classified based on available information.

### STOT-single exposure

May cause respiratory irritation.

# **Components:**

### **Proteinase K:**

Assessment : May cause respiratory irritation.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

# STOT-repeated exposure

Not classified based on available information.

### Components:

## **Proteinase K:**

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

## **Aspiration toxicity**

Not classified based on available information.

#### **Components:**

## **Proteinase K:**

No data available

# Magnetic Glass Particles (MGPs) Suspension

## **Acute toxicity**

Not classified based on available information.

## **Components:**

# 2-Propanol:

Acute oral toxicity : LD50 (Rat): 5,840 mg/kg

Method: OECD Test Guideline 401

GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): > 10000 ppm

Exposure time: 6 h Test atmosphere: vapor

Method: OECD Test Guideline 403

GLP: yes

Acute dermal toxicity : LD50 (Rabbit): 13,900 mg/kg

Method: OECD Test Guideline 402

GLP: no

### Skin corrosion/irritation

Not classified based on available information.

# **Components:**

# 2-Propanol:

Species : Rabbit Exposure time : 4 h

Result : No skin irritation

GLP : no

# Serious eye damage/eye irritation

Causes serious eye irritation.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

# **Components:**

### 2-Propanol:

Species : Rabbit

Result : Irritating to eyes.

Method : OECD Test Guideline 405

GLP : no

Remarks : May cause irreversible eye damage.

## Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

### Respiratory sensitization

Not classified based on available information.

#### **Components:**

### 2-Propanol:

Test Type : Buehler Test Species : Guinea pig

Assessment : Does not cause skin sensitization.

Method : OECD Test Guideline 406

GLP : yes

# Germ cell mutagenicity

Not classified based on available information.

#### Components:

## 2-Propanol:

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

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

Test Type: Microbial mutagenesis assay (Ames test)

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: no

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse (male and female)

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

GLP: yes



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## Carcinogenicity

Not classified based on available information.

## **Components:**

### 2-Propanol:

Species : Rat, male and female
Application Route : inhalation (vapor)
Exposure time : 104 weeks
Frequency of Treatment : 5 days/week

Method : OECD Test Guideline 451

GLP : yes

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

#### Reproductive toxicity

Not classified based on available information.

## **Components:**

### 2-Propanol:

Effects on fertility : Species: Rat, male and female

Application Route: Oral

General Toxicity Parent: NOAEL: 853 mg/kg body weight

Method: OECD Test Guideline 415

GLP: yes

Effects on fetal development : Species: Rat, male and female

Application Route: Oral

Dose: 596, 1242, 1605 mg/kg bw/day Duration of Single Treatment: 6 - 16 d

General Toxicity Maternal: NOAEL: 596 mg/kg body weight Developmental Toxicity: NOAEL: 596 mg/kg body weight

Method: OECD Test Guideline 414

GLP: yes

### STOT-single exposure

May cause drowsiness or dizziness.

# **Components:**

# 2-Propanol:

Assessment : May cause drowsiness or dizziness.

## STOT-repeated exposure

Not classified based on available information.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

### Repeated dose toxicity

### **Components:**

## 2-Propanol:

Species : Rat, male and female

NOAEC : 5000
Application Route : Inhalation
Test atmosphere : vapor
Exposure time : 104 Weeks

Dose : 500, 2500, 5000 ppm parts per million

GLP : yes

# **Aspiration toxicity**

Not classified based on available information.

#### **Further information**

#### Elution Buffer

#### **Acute toxicity**

Not classified based on available information.

#### Skin corrosion/irritation

Not classified based on available information.

# Serious eye damage/eye irritation

Not classified based on available information.

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

### Respiratory sensitization

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

# Carcinogenicity

Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Not classified based on available information.

# STOT-single exposure

Not classified based on available information.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## STOT-repeated exposure

Not classified based on available information.

# **Aspiration toxicity**

Not classified based on available information.

#### **SECTION 12. ECOLOGICAL INFORMATION**

# Wash Buffer I (WB I)

## **Ecotoxicity**

#### **Components:**

# Guanidine, hydrochloride (1:1):

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 1,758 mg/l

End point: mortality Exposure time: 48 h Test Type: static test

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 70.2 mg/l

End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes

Method: OECD Test Guideline 202 GLP: No information available.

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 33.5

mg/l

End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes

Method: Regulation (EC) No. 440/2008, Annex, C.3

GLP: yes

EC50 (Pseudokirchneriella subcapitata (green algae)): 11.8

mg/l

Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes

Method: Regulation (EC) No. 440/2008, Annex, C.3

GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 6.3

mg/l

End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes

Method: Regulation (EC) No. 440/2008, Annex, C.3

GLP: yes



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): > 181 mg/l

End point: mortality Exposure time: 35 d

Test Type: flow-through test Analytical monitoring: yes

Method: OECD Test Guideline 210 GLP: No information available.

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 2.9 mg/l

End point: reproduction rate

Exposure time: 21 d Analytical monitoring: yes

Method: OECD Test Guideline 211 GLP: No information available.

Toxicity to microorganisms : EC10 (Pseudomonas putida): 7,125 mg/l

End point: Growth rate Exposure time: 18 h Test Type: static test Method: DIN 38 412 Part 8

GLP: yes

**Ecotoxicology Assessment** 

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

**Ethanol:** 

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 15,300 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes GLP: No information available.

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l

Exposure time: 48 h
Test Type: static test

GLP: No information available.

Toxicity to algae/aquatic

plants

EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l

Exposure time: 5 d Analytical monitoring: no

Method: OECD Test Guideline 201 GLP: No information available.

Toxicity to fish (Chronic tox-

icity)

NOEC (Danio rerio (zebra fish)): 250 mg/l

Exposure time: 120 h

GLP: No information available.



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 9.6 mg/l Exposure time: 7 d

GLP: No information available.

Toxicity to microorganisms : IC50 (activated sludge): > 1,000 mg/l

End point: Growth rate Exposure time: 3 h Test Type: static test Analytical monitoring: yes

Method: OECD Test Guideline 209 GLP: No information available.

Remarks: Based on data from similar materials

**Ecotoxicology Assessment** 

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

Persistence and degradability

**Components:** 

Guanidine, hydrochloride (1:1):

Biodegradability : aerobic

Inoculum: activated sludge, adapted

Concentration: 10 mg/l

Result: Not readily biodegradable.

Biodegradation: 0 % Exposure time: 33 d

Method: OECD Test Guideline 301C

GLP: yes

Impact on Sewage Treat-

ment

Do not discharge product into the aquatic environment without

pretreatment (biological treatment plant).

**Ethanol:** 

Biodegradability : aerobic

Inoculum: activated sludge, non-adapted

Result: Readily biodegradable.

Biodegradation: 84 % Exposure time: 20 d

GLP: No information available.

Bioaccumulative potential

Components:

Guanidine, hydrochloride (1:1):

Partition coefficient: n- : log Pow: < -1.7 (68 °F / 20 °C)

octanol/water pH: 7.4

Method: OECD Test Guideline 107

GLP: yes



# MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Ethanol:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water,

accumulation in organisms is not expected.

Partition coefficient: n-

octanol/water

log Pow: -0.35 (75 °F / 24 °C)

pH: 7.4

Method: OECD Test Guideline 107 GLP: No information available.

Other adverse effects

Wash Buffer II (WB II)

**Ecotoxicity** 

**Components:** 

**Ethanol:** 

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 15,300 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes GLP: No information available.

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l

Exposure time: 48 h Test Type: static test

GLP: No information available.

Toxicity to algae/aquatic

plants

EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l

Exposure time: 5 d Analytical monitoring: no

Method: OECD Test Guideline 201 GLP: No information available.

Toxicity to fish (Chronic tox-

icity)

NOEC (Danio rerio (zebra fish)): 250 mg/l

Exposure time: 120 h

GLP: No information available.

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 9.6 mg/l Exposure time: 7 d

GLP: No information available.

Toxicity to microorganisms : IC50 (activated sludge): > 1,000 mg/l

End point: Growth rate Exposure time: 3 h Test Type: static test Analytical monitoring: yes

Method: OECD Test Guideline 209
GLP: No information available.

Remarks: Based on data from similar materials



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

**Ecotoxicology Assessment** 

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

Persistence and degradability

**Components:** 

**Ethanol:** 

Biodegradability : aerobic

Inoculum: activated sludge, non-adapted

Result: Readily biodegradable.

Biodegradation: 84 % Exposure time: 20 d

GLP: No information available.

**Bioaccumulative potential** 

**Components:** 

**Ethanol:** 

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water,

accumulation in organisms is not expected.

Partition coefficient: n-

octanol/water

log Pow: -0.35 (75 °F / 24 °C)

pH: 7.4

Method: OECD Test Guideline 107 GLP: No information available.

Other adverse effects

Lysis/Binding Buffer

**Ecotoxicity** 

**Components:** 

Thiocyanic acid, compd. with guanidine (1:1):

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 89.1 mg/l

End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: no

Method: OECD Test Guideline 203

GLP: no

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia): 42.4 mg/l End point: Immobilization

Exposure time: 48 h
Test Type: static test
Analytical monitoring: no

Method: OECD Test Guideline 202



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

GLP: no

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): 130 mg/l

End point: Growth rate Exposure time: 72 h Test Type: static test

GLP: No information available.

Toxicity to microorganisms : EC50 (activated sludge): > 185 mg/l

Exposure time: 28 d Test Type: static test

Method: OECD Test Guideline 302B

GLP: yes

**Ecotoxicology Assessment** 

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4 - 8.9 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 18 - 26 mg/l

Exposure time: 48 h

**Ecotoxicology Assessment** 

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

Persistence and degradability

**Components:** 

Thiocyanic acid, compd. with guanidine (1:1):

Biodegradability : aerobic

Inoculum: activated sludge, non-adapted

Concentration: 343 mg/l

Result: Inherently biodegradable.

Biodegradation: 46 % Exposure time: 28 d

Method: OECD Test Guideline 302B

GLP: no

Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-:

Biodegradability : Biodegradation: > 60 %



## MagNA Pure LC DNA Isolation Kit I

Version **Revision Date:** Date of last issue: 02-05-2021 2.3 10-08-2021 Date of first issue: 11-08-2015

Exposure time: 28 d

Method: OECD Test Guideline 301B

Remarks: According to the results of tests of biodegradability

this product is not readily biodegradable.

#### Bioaccumulative potential

#### **Components:**

Thiocyanic acid, compd. with guanidine (1:1):

Partition coefficient: n-: log Pow: -1.11 (77 °F / 25 °C)

octanol/water pH: > 5.1

Method: Regulation (EC) No. 440/2008, Annex, A.8

GLP: no

Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-:

Bioaccumulation Remarks: No bioaccumulation is to be expected (log Pow <=

Partition coefficient: n-

octanol/water

: Remarks: No data available

Other adverse effects

#### Proteinase K

## **Ecotoxicity**

## **Components:**

### **Proteinase K:**

#### **Ecotoxicology Assessment**

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to : No data available

the environment

### Persistence and degradability

No data available

## Bioaccumulative potential

#### **Components:**

Proteinase K:

Partition coefficient: n-

: Remarks: No data available

octanol/water

## Other adverse effects

## Magnetic Glass Particles (MGPs) Suspension



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

**Ecotoxicity** 

Components:

2-Propanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes

Method: OECD Test Guideline 203

GLP: no

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): > 10,000 mg/l

End point: Immobilization Exposure time: 24 h Test Type: static test Analytical monitoring: no

Method: OECD Test Guideline 202

GLP: no

Toxicity to algae/aquatic

plants

EC10 (Scenedesmus quadricauda (Green algae)): 1,800 mg/l

Exposure time: 7 d Test Type: static test Analytical monitoring: no

GLP: no

Toxicity to microorganisms : (Pseudomonas putida): 1,050 mg/l

Exposure time: 16 h Test Type: static test Analytical monitoring: no Method: DIN 38 412 Part 8

GLP: no

**Ecotoxicology Assessment** 

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to

the environment

No data available

Persistence and degradability

**Components:** 

2-Propanol:

Biodegradability : aerobic

Inoculum: activated sludge Result: Readily biodegradable.

Biodegradation: 53 % Exposure time: 5 d

GLP: no



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

### **Bioaccumulative potential**

**Components:** 

2-Propanol:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water,

accumulation in organisms is not expected.

Partition coefficient: n-

octanol/water

: log Pow: 0.05 (77 °F / 25 °C)

GLP: no

#### Other adverse effects

### **Elution Buffer**

**Ecotoxicity** 

No data available

Persistence and degradability

No data available

**Bioaccumulative potential** 

No data available

Other adverse effects

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Waste from residues : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

## **SECTION 14. TRANSPORT INFORMATION**

#### **International Regulations**

**UNRTDG** 

UN number : UN 3316

Proper shipping name : CHEMICAL KIT

Class : 9
Packing group : II
Labels : 9

IATA-DGR

UN/ID No. : UN 3316



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

960

Proper shipping name : Chemical kit

Class : 9 Packing group : II

Labels : Miscellaneous

Packing instruction (cargo

aircraft)

Packing instruction (passen- : 960

ger aircraft)

**IMDG-Code** 

UN number : UN 3316
Proper shipping name : CHEMICAL KIT

Class : 9
Packing group : II
Labels : 9

EmS Code : F-A, S-P Marine pollutant : no

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

Not applicable

#### **Domestic regulation**

**49 CFR** 

UN/ID/NA number : UN 3316
Proper shipping name : Chemical kit

Class : 9 Packing group : II

Labels : CLASS 9
ERG Code : 171
Marine pollutant : no

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### **SECTION 15. REGULATORY INFORMATION**

## Wash Buffer I (WB I)

### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure)

Carcinogenicity

Skin corrosion or irritation

Serious eye damage or eye irritation



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

## **US State Regulations**

## Massachusetts Right To Know

Ethanol 64-17-5

## Pennsylvania Right To Know

 Guanidine, hydrochloride (1:1)
 50-01-1

 Ethanol
 64-17-5

 Water
 7732-18-5

#### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

## **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

#### **California List of Hazardous Substances**

Ethanol 64-17-5

#### **California Permissible Exposure Limits for Chemical Contaminants**

Ethanol 64-17-5

#### The ingredients of this product are reported in the following inventories:

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

NZIoC : On the inventory, or in compliance with the inventory



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 10-08-2021 Date of first issue: 11-08-2015

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI: On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## Wash Buffer II (WB II)

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

## SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)

Carcinogenicity

Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Ethanol 64-17-5 >= 30 - < 50 %

#### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### **US State Regulations**

Massachusetts Right To Know

Ethanol 64-17-5

Pennsylvania Right To Know

Water 7732-18-5 Ethanol 64-17-5

**Maine Chemicals of High Concern** 

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern** 

Product does not contain any listed chemicals

**Washington Chemicals of High Concern** 

Product does not contain any listed chemicals

California List of Hazardous Substances

Ethanol 64-17-5

California Permissible Exposure Limits for Chemical Contaminants

Ethanol 64-17-5

The ingredients of this product are reported in the following inventories:

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI: On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

## **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

## Lysis/Binding Buffer

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)

Skin corrosion or irritation

Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

#### **US State Regulations**

#### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know

Thiocyanic acid, compd. with guanidine (1:1) 593-84-0 Water 7732-18-5 Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-

#### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

## **Washington Chemicals of High Concern**



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

Product does not contain any listed chemicals

The ingredients of this product are reported in the following inventories:

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI: Not in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

#### Proteinase K

## **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitization

Skin corrosion or irritation

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### **US State Regulations**

### **Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

Proteinase K 39450-01-6 Calcium acetate hydrate 114460-21-8

### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

### The ingredients of this product are reported in the following inventories:

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

Proteinase K

NZIoC : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## Magnetic Glass Particles (MGPs) Suspension

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels es-

tablished by SARA Title III, Section 313:

2-Propanol 67-63-0 >= 90 - <= 100 %

#### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

#### **US State Regulations**

#### Massachusetts Right To Know

2-Propanol 67-63-0

## Pennsylvania Right To Know

2-Propanol 67-63-0
Magnetic glass particles (MGP) Not Assigned



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

#### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

#### **California List of Hazardous Substances**

2-Propanol 67-63-0

#### **California Permissible Exposure Limits for Chemical Contaminants**

2-Propanol 67-63-0

#### The ingredients of this product are reported in the following inventories:

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

Magnetic glass particles (MGP)

NZIoC : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

#### **Elution Buffer**

## **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

## SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

## **US State Regulations**

## Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

## Pennsylvania Right To Know

Water 7732-18-5

#### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

#### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

## **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

## The ingredients of this product are reported in the following inventories:

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## Wash Buffer I (WB I)

#### **GHS** label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.

H302 Harmful if swallowed. H315 Causes skin irritation.

H319 Causes serious eye irritation.

H350 May cause cancer.

## Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equip-

ment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

for several minutes. Remove contact lenses, if present and easy



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P332 + P313 If skin irritation occurs: Get medical advice/ atten-

tion.

P337 + P313 If eye irritation persists: Get medical advice/ atten-

tion.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alco-

hol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

## Wash Buffer II (WB II)

#### **GHS** label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H350 May cause cancer.

Precautionary Statements

#### Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equip-

ment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

## Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

P308 + P313 IF exposed or concerned: Get medical advice/

attention.
P337 + P313 If eye irritation persists: Get medical advice/ atten-

tion.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

### Disposal:

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

## Lysis/Binding Buffer

#### **GHS** label elements

Hazard pictograms





Signal Word : Danger

Hazard Statements : H302 + H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary Statements : Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER/ doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT

induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON

CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

CENTER/ doctor.

P363 Wash contaminated clothing before reuse.

## Storage:

P405 Store locked up.



## MagNA Pure LC DNA Isolation Kit I

Version **Revision Date:** Date of last issue: 02-05-2021 2.3 10-08-2021 Date of first issue: 11-08-2015

## Disposal:

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

#### Proteinase K

#### **GHS** label elements

Hazard pictograms





Signal Word Danger

H315 Causes skin irritation. **Hazard Statements** 

> H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing diffi-

culties if inhaled.

H335 May cause respiratory irritation.

**Precautionary Statements** 

#### Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ eye protection/ face protection. P285 In case of inadequate ventilation wear respiratory protec-

#### Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ atten-

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

P362 Take off contaminated clothing and wash before reuse.

#### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

### Disposal:

P501 Dispose of contents/ container to an approved waste dis-



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

posal plant.

## Magnetic Glass Particles (MGPs) Suspension

**GHS** label elements

Hazard pictograms





Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

Precautionary Statements :

#### Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equip-

ment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

### Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/

doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

#### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

#### Disposal:

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

#### **Elution Buffer**



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: 2.3 10-08-2021

Date of last issue: 02-05-2021 Date of first issue: 11-08-2015

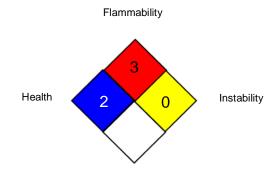
#### **GHS** label elements

Not a hazardous substance or mixture.

#### **SECTION 16. OTHER INFORMATION**

#### **Further information**

#### NFPA 704:



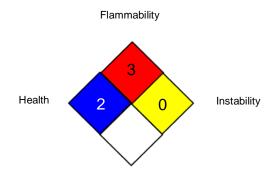
Special hazard

# HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

## NFPA 704:



Special hazard

## HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.



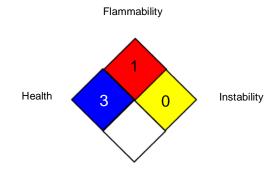
# MagNA Pure LC DNA Isolation Kit I

Version 2.3

Revision Date: 10-08-2021

Date of last issue: 02-05-2021 Date of first issue: 11-08-2015

#### NFPA 704:



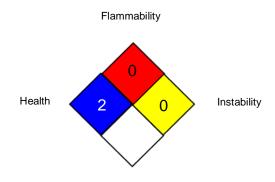
Special hazard

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### NFPA 704:



Special hazard

#### HMIS® IV:



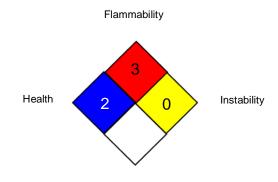
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## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

#### NFPA 704:



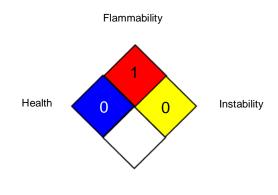
Special hazard

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

#### NFPA 704:



Special hazard

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

#### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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



## MagNA Pure LC DNA Isolation Kit I

Version Revision Date: Date of last issue: 02-05-2021 2.3 Date of first issue: 11-08-2015

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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; 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

Revision Date : 10-08-2021

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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