



MagExtractor™ -Viral RNA-
 First issue : Feb. 26, 1998
 Revised : Dec. 21, 2017
 MSDS No. 1505F

Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Identification of the Product **MagExtractor™ - Viral RNA-**
 Product Code **NPK-401F**

SUPPLIER
 Name **TOYOBO Co., Ltd.**
 Address **2-2-8 Dojima Hama Kita-ku Osaka, 530-8230 Japan**
 Department **Biotech support Department**
 Emergency Telephone No. **+81-6-6348-3786**
 Fax No. **+81-6-6348-3833**
 Recommended use and restrictions on use **Isolation of viral RNA from serum or plasma (for research use only)**

2 HAZARDS IDENTIFICATION

Chemical product-specific hazard **May develop poisonous gas in contact with strong acid, or by heating.**

GHS Classification

Hazard class and category		Lysis & Binding Solution	Magnetic Beads	Washing Solution I
Physical Hazards	Flammable Liquid	Not classified	Not classified	Not classified
Health Hazards	Acute toxicity: Oral	Category 4	Not classified	Category 4
	Acute toxicity: Dermal	Category 4	Classification not possible	Classification not possible
	Acute toxicity: Inhalation dust	Category 4	Not classified	Not classified
	Skin corrosion/ Irritation	Category 1B	Classification not possible	Category 2
	Serious eye damage /Eye irritation	Category 1	Category 2A	Category 2A
Environmental Hazards	Specific target organ toxicity (single exposure)	Classification not possible	Classification not possible	Classification not possible
	Specific target organ toxicity (repeated exposure)	Category 1 (Thyroid gland)	Classification not possible	Classification not possible
	Acute hazards to the aquatic environment	Category 3	Classification not possible	Category 3
	Long-term hazards to the aquatic environment	Category 3	Classification not possible	Category 3
Washing Solution II	Not classified			
Elution Solution	Not classified			

Label elements
 <Lysis&Binding Solution>
 Pictograms or symbols



Signal words **Danger**
 Hazard statements **Harmful if swallowed, in contact with skin and inhaled
 Causes severe skin burns and eye damage
 Cause damage to thyroid gland through prolonged or repeated exposure
 Harmful to aquatic life with long lasting effects**



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2 HAZARDS IDENTIFICATION(Continued)

Precautionary statements

Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust / fume / gas / mist / vapors /spray
Do not eat, drink or smoke when using this product
Wash hands thoroughly after handling

Response

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.Immediately call a POISON CENTER or doctor / physician.
If on skin : Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.Wash with plenty of soap and water.Immediately call a POISON CENTER or doctor / physician.Wash contaminated clothing before reuse.
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 or doctor / physician.
If swallowed: Rinse mouth. Do NOT induce vomiting.Immediately call a POISON CENTER or doctor / physician.
Get immediate medical advice/ attentions if you feel unwell.

Storage Disposal

Store locked up.
Dispose of contents / container in accordance with local / regional / national /international regulation.

<Magnetic beads> Pictograms or symbols



Signal word Hazard statements

Warning
Causes serious eye irritation

Precautionary statements

Prevention

Do not handle until all safety precautions have been read and understood.
Wear eye protection / face protection. Wash hands thoroughly after handling.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice / attention.

<Washing Solution I> Pictograms or symbols



Signal words Hazard statements

Warning
Harmful if swallowed
Cause skin irritation
Causes serious eye irritation
Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

Wear protective gloves/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wash hands thoroughly after handling.



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2 HAZARDS IDENTIFICATION(Continued)

Response If swallowed: Call a POISON CENTER or doctor/physician if you fell unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water and soap.
 If skin irritation occurs: Get medical advice/attention.
 Take off contaminated clothing and wash it before reuse.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. continue rinsing.
 If eye irritation persists: Get medical advice/attention.

Disposal Dispose of contents / container in accordance with local / regional / national /international regulation.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (a substance or mixture) Mixture
 <Lysis&Binding Solution>, <Washing Solution I, II>;aqueous solution
 <Magneitc Beads> dispersion

Chemical Nature
 Parts Name Main components CAS No. (EC No.)
 <Magneitc Beads> Magnetic Beads (Silicon dioxide, Triiron tetraoxide) 7647-14-5
 Sodium Chloride 593-84-0
 <Lysis&Binding Solution> Guanidine Thiocyanate 9002-93-1
 Triton X-100 50-01-1
 <Washing Solution I> Guanidine Hydrochloride 9002-93-1
 Triton X-100

Components Contributing to the Hazard

Common Chemical Name (or Generic Name)	Silicon dioxide	Triiron tetraoxide	Guanidine Thiocyanate	Guanidine Hydrochloride
Synonyms	colloidal silica	iron(II) iron(III) oxide	Guanidinium Thiocyanate	Guanidinium Hydrochloride
Contained Parts:Percentage	Magnetic Beads: 15~30%	Magnetic Beads: 5~15%	Lysis&Binding Solution ~60%	Washing Solution I ~60%
CAS No.	7631-86-9	1317-61-9	593-84-0	50-01-1
Common Chemical Name (or Generic Name)	Sodium Chloride	Triton X-100		
Synonyms		polyethylene glycol-p-octyl phenyl ether		
Contained Parts:Percentage	Magnetic Beads: ~30%	Lysis&Binding Solution <3.0% Washing Solution I<1.0%		
CAS No.	7647-14-5	9002-93-1		

4 FIRST-AID MEASURES

Inhalation In case of accident by inhalation, move affected person to fresh air and await recovery. If irritation persists, seek immediate medical attention.

Skin Contact Take off immediately all contaminated clothing. Wash with plenty of clean water, immediately.

Eye Contact Flush eyes with clean plenty of water, and seek medical attention.

Ingestion Rinse mouth. Call a POISON CENTER or doctor/physician if you fell unwell. Do not induce to vomiting.

Most important symptoms/effects Inhalation, Ingestion: Cough, Diarrhea
 Skin, Eye: Pain, Redness



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5 FIRE-FIGHTING MEASURES

Extinguishing Media	Water, Carbon Dioxide, Foam, Dry Chemical Powder
Specific hazards	Toxic gas containing carbon monoxide, nitrogen oxides, sulfur oxides, chlorine, hydrogen chloride may be generated upon combustion of.
Specific extinguishing methods	Fire-fighting should be done from the windward side of fire area.
Protection of fire-fighters	Fire-fighters should wear proper protective equipment in case of large scale fire.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear protective equipments and avoid contact with eyes and skin.
Environmental Precautions	Avoid disposition to the environment.
Methods for Cleaning up	Use cloth, paper or anything similar to soak up the solution leaking out of the container. Take up under vacuum using dust collecting filter.

7 HANDLING AND STORAGE

HANDLING

Technical Measures	Handle the reagent not to generate aerosol or dust. Wear protective equipments and avoid contact with eyes and skin.
Safe Handling Advice	Keep the handling area always clean.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

STORAGE

Proper Storage Conditions	Keep tightly closed and store at about 4°C
Packaging Materials	Store in the original package

8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING MEASURES	Set up good ventilation and exhaust system in the work area. Provide shower and vanity unit nearby.
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PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	Wear a dust mask when needed.
Hand Protection	Wear chemical safety gloves.
Eye Protection	Wear protective eyeglasses or chemical safety goggles.
Skin and Body Protection	Wear lab coat when needed.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Colour	Brown suspension(Magnetic Beads), Clear solution(Others)
Odour	None
pH	6.0-8.0
Flash Point	No flammability due to aqueous solution
Explosion limit	Not explosible
Density	Not available
Solubility	Soluble in water except for Magnetic Beads .

10 STABILITY AND REACTIVITY

Stability	Stable under normal handling and storage conditions at 4°C.
Possible Hazardous Reactions	
Conditions to Avoid	Heating(Lysis & Binding Solution, Washing Solution I)
Material to Avoid	Strong alkalines and strong oxidizers(Lysis & Binding Solution, Washing Solution I)
Hazardous Decomposition Products	nitrogen oxides, sulfur oxides, hydrogen cyanide, chlorine, hydrogen chloride (Lysis & Binding Solution, Washing Solution I)

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	May be harmful if swallowed.
Skin irritation/corrosion	May cause eye and skin irritation.
Specific target organ toxicity- single exposure	May cause respiratory irritation.



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11 TOXICOLOGICAL INFORMATION(Continued)

Toxicological information on the component of this product

	Silicon dioxide	Triiron tetraoxide	Triton X-100	Guanidine Thiocyanate
Acute toxicity	not available	not classified	Oral-rat: LD50 1800mg/kg Dermal-rabbit: LD50 >3000mg/kg	Oral-rat: LD50 593mg/kg Dermal-ATE: 1100mg/kg Inhalation (dust/mist): 1.6mg/L
Skin corrosion/Irritation	not available	not classified	Not available	rabbit : Corrosive (Causes burns)
Eye damage/irritation	not available	Category 2	Category 2A	Causes severe burns and risk of blindness
Carcinogenicity	IARC Group 3	not available	Not available	Not available
Specific target organ toxicity- single exposure	Not available	Not available	Not available	Inhalation : Harmful to mucous membrane and Upper respiratory tract tissues
Specific target organ toxicity- repeated exposure	Not available	Not available	Not available	Oral : Cause burns. Risk of thyroid gland malfunction
Acute toxicity	Guanidine Category 4 Oral-rat: LD50 774mg/kg Dermal-rabbit: LD50 >2000mg/kg Inhalation-rat: LC50 5.319mg/L(dust)			
Skin corrosion/Irritation	Rabbit : Highly irritating (Category 2)			
Eye damage/irritation	Rabbit : Irritating (Category 2A)			
Carcinogenicity	not available			
Specific target organ toxicity- single exposure	not available			
Specific target organ toxicity- repeated exposure	not available			

12 ECOLOGICAL INFORMATION

	Silicon dioxide	Triiron tetraoxide	Guanidine	Triton X-100
Ecotoxicity	not available	not available	not available	Fish (Bluegill) : LC50 (96hr)
Persistence and degradability	not degradable	not degradable	not available	not rapid degradable
Mobility in soil	Insoluble in water and not diffusible into water		Soluble in water and diffusible into water	Soluble in water and diffusible into water



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12 ECOLOGICAL INFORMATION(Continued)

Ecotoxicity	Guanidine Thiocyanate Crustacea (Daphnia) : 48hr EC50 42.4 mg/L
Persistence and degradability	not available
Mobility in soil	Soluble in water and diffusible into water

13 DISPOSAL CONSIDERATIONS

Waste from Residues	Dispose of in accordance with all applicable local and national laws and regulations.
Contaminated Packaging	Dispose of in the same way as the material.

14 TRANSPORT INFORMATION

International Regulations	
UN Classification Number	Not classified
Specific Precautions	Follow all of the laws and regulations in your respective country. To prevent packages from breaking, handle with care.

15 REGULATORY INFORMATION

Regulations, Evaluation, Authorization and Restriction	The following ingredients are included in SVHC(Candidate list of authorization)
Common Chemical name	Polyethylene Glycol Mono-p-isooctylphenyl Ether(Triton X-100)
Follow all of the laws and regulations in your country.	

16 OTHER INFORMATION

Notice	The information in this SDS, to the best of our knowledge, is accurate and correct. However, TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information. The SDS is subject to revision as new information becomes available.
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