

# SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 28-Feb-2023  
 Revision Number 2.04

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	DNA Extractor® FM Kit
<b>Product Code</b>	295-58501

**Manufacturer** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome  
 Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-5964

**Supplier** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-2029

**Emergency telephone number** +81-6-6203-3741 / +81-3-3270-8571

**Recommended uses and restrictions on use** For research use only

## Section 2: HAZARDS IDENTIFICATION

**GHS classification**  
**Classification of the substance or mixture**

<b>Flammable liquids</b>	Category 2
<b>Acute toxicity - Oral</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2A
<b>Germ cell mutagenicity</b>	Category 1B
<b>Reproductive Toxicity</b>	Category 1A
<b>Specific target organ toxicity (single exposure)</b>	Category 1, Category 3
<b>Category 1</b> central nervous system, kidneys, systemic toxicity	
<b>Category 3</b> Respiratory irritation, Narcotic effects	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 1
<b>Category 1</b> liver	

**Pictograms**



**Signal word**

Danger

**Hazard statements**

- H225 - Highly flammable liquid and vapor
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H302 - Harmful if swallowed
- H340 - May cause genetic defects
- H360 - May damage fertility or the unborn child
- H335 - May cause respiratory irritation
- H336 - May cause drowsiness or dizziness

H370 - Causes damage to the following organs: central nervous system, kidneys, systemic toxicity

H372 - Causes damage to the following organs through prolonged or repeated exposure: liver

#### Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ ventilating / lighting / equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Keep cool

#### Precautionary statements-(Response)

- IF exposed: Call a POISON CENTER or doctor/physician
- 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
- If skin irritation occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Precautionary statements-(Storage)

- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

#### Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

#### Others

Other hazards Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Kit (Set of mixtures)

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Lysis Solution	-	N/A	N/A	N/A	292-58511
Enzyme-activated Reagent	-	N/A	N/A	N/A	299-58521
Reconstitution Solution	-	N/A	N/A	N/A	296-58531
Protease	-	N/A	N/A	N/A	293-58541
Sodium Iodide Solution	-	N/A	N/A	N/A	290-58551
Washing Solution A	-	N/A	N/A	N/A	297-58561
Washing Solution B	-	N/A	N/A	N/A	294-58571

Note on ISHL No.: \* in the table means announced chemical substances.

#### Impurities and/or Additives:

Hazardous Component

Not applicable

Sodium Iodide (CAS 7681-82-5)50-70%, 2-Propanol(CAS 67-63-0)30-40%, Ethanol(CAS 64-17-5)60-70%

#### Substances Remarks:

The composition considered to be hazardous are listed in the above. The remaining ingredients are not hazardous substances, or exist at below reportable level.

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

## Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Water spray (fog), Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air

**Special extinguishing method**

No information available

**Special protective actions for fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Environmental precautions**

To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for contaminant and methods and materials for cleaning up**

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

**Recovery, neutralization**

No information available

**Secondary disaster prevention measures**

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

**Handling****Technical measures**

Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.

**Precautions**

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle In places other than those specified, should not be smoking or eating and drinking Should not be brought contaminated protective equipment and gloves to rest stops Deny unnecessary entry of non-emergency personnel to the handling area

**Safety handling precautions**

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Storage****Safe storage conditions**

**Storage conditions** Store away from sunlight in a cool (2-10 °C) well-ventilated dry place.

**Safe packaging material** Glass, Polypropylene

**Incompatible substances** Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

**Exposure limits**

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Ethanol 64-17-5	N/A	N/A	STEL: 1000 ppm
2-Propanol 67-63-0	400ppm ( 980g/m <sup>3</sup> )	ISHL/ACL: 200 ppm	STEL: 400 ppm TWA: 200 ppm
Sodium iodide 7681-82-5	N/A	N/A	TWA: 0.01 ppm inhalable fraction and vapor

**Personal protective equipment**

**Respiratory protection** gas mask for organic gas

**Hand protection** Impermeable protective gloves

**Eye protection** protective eyeglasses or chemical safety goggles

**Skin and body protection** Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Form**

**Appearance**

Kit (Set of mixtures)

**Odor**

no data available

**Melting point/freezing point**

no data available

**Boiling point, initial boiling point and boiling range**

no data available

**Flammability**

Highly flammable liquid and vapor

**Evaporation rate:**

no data available

**Flammability (solid, gas):**

no data available

**Upper/lower flammability or explosive limits**

**Upper:**

no data available

**Lower:**

no data available

**Flash point**

no data available

**Auto-ignition temperature:**

no data available

**Decomposition temperature:**

no data available

**pH**

no data available

**Viscosity (coefficient of viscosity)**

no data available

**Dynamic viscosity**

no data available

**Solubilities**

water : soluble .

**n-Octanol/water partition coefficient:(log Pow)**

no data available

**Vapour pressure**

no data available

**Specific Gravity / Relative density**

no data available

**Vapour density**

no data available

**Particle characteristics**

no data available

## Section 10: STABILITY AND REACTIVITY

**Stability**

**Reactivity** no data available  
**Chemical stability** Stable under recommended storage conditions.

**Hazardous reactions**

None under normal processing

**Conditions to avoid**

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

**Incompatible materials**

Strong oxidizing agents

**Hazardous decomposition products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Halides

<b>Section 11: TOXICOLOGICAL INFORMATION</b>
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**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol	6200 mg/kg ( Rat )	20000 mg/kg ( Rabbit )	63000 ppmV ( Rat ) 4 h
2-Propanol	4384 mg/kg ( Rat )	12870 mg/kg ( Rabbit )	27908 ppmV ( Rat ) 4 h
Sodium iodide	4340 mg/kg(rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust-source information	Acute toxicity -inhalation mist-source information
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

**Skin irritation/corrosion**

Chemical Name	Skin corrosion/irritation source information
Ethanol	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.

**Serious eye damage/irritation**

Chemical Name	Serious eye damage/irritation source information
Ethanol	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
Ethanol	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Ethanol	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Ethanol	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Ethanol 64-17-5	Known	Group 1	A3	-
2-Propanol	-	Group 3	-	-

67-63-0			
<b>Reproductive toxicity</b>			
<b>Chemical Name</b>	<b>Reproductive toxicity source information</b>		
Ethanol	Based on the NITE GHS classification results.		
2-Propanol	Based on the NITE GHS classification results.		
<b>STOT-single exposure</b>			
<b>Chemical Name</b>	<b>STOT -single exposure- source information</b>		
Ethanol	Based on the NITE GHS classification results.		
2-Propanol	Based on the NITE GHS classification results.		
<b>STOT-repeated exposure</b>			
<b>Chemical Name</b>	<b>STOT -repeated exposure- source information</b>		
Ethanol	Based on the NITE GHS classification results.		
2-Propanol	Based on the NITE GHS classification results.		
<b>Aspiration hazard</b>			
<b>Chemical Name</b>	<b>Aspiration Hazard source information</b>		
Ethanol	Based on the NITE GHS classification results.		
2-Propanol	Based on the NITE GHS classification results.		

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethanol	<i>EC50 : Chlorella alga</i> 1000 mg/L 96 h	<i>LC50 : Oncorhynchus mykiss</i> 11200 ppm 96 h	<i>EC50 : Daphnia magna</i> 5463 mg/L 48 h
2-Propanol	<i>ErC50 : Pseudokirchneriella subcapitata</i> > 1000 mg/L 72 h	<i>LC50 : Orange-red Killifish</i> > 100 mg/L 96 h	<i>EC50 : Daphnia magna</i> > 1000 mg/L 48 h
Sodium iodide	N/A	<i>LC50 : rainbow trout</i> 860 mg/L 96 h	N/A

### Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
2-Propanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available
<b>Mobility</b>	

## Section 13: DISPOSAL CONSIDERATIONS

### Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

### ADR/RID

<b>UN number</b>	UN1170
<b>Proper shipping name:</b>	Ethanol solution
<b>UN classification</b>	3

Subsidiary hazard class  
Packing group II  
Marine pollutant Not applicable

**IMDG**

UN number UN1170  
Proper shipping name: Ethanol solution  
UN classification 3  
Subsidiary hazard class  
Packing group II  
Marine pollutant (Sea) Not applicable  
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

**IATA**

UN number UN1170  
Proper shipping name: Ethanol solution  
UN classification 3  
Subsidiary hazard class  
Packing group II  
Environmentally Hazardous Substance Not applicable

**Section 15: REGULATORY INFORMATION****International Inventories**

EINECS/ELINCS -  
TSCA -

**Japanese regulations**

**Fire Service Act** Category IV, alcohols, dangerous grade 2 water-soluble  
**Poisonous and Deleterious Substances Control Law** Not applicable  
**Industrial Safety and Health Act** Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)  
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.61,494,606  
Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5)  
Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)  
Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)  
Priority Assessment Chemical Substances (Law Article 2, Para.5)  
**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc**  
**Regulations for the carriage and storage of dangerous goods in ship** Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)  
**Civil Aeronautics Law** Flammable Liquids (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)  
**Marine Pollution Prevention Law** Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Z  
**Pollutant Release and Transfer Register Law (~2023.3.31)** Not applicable  
**Pollutant Release and Transfer Register Law (2023/4/1~)** Not applicable  
**Export Trade Control Order** Not applicable  
**Industrial Safety and Health Law (~2024.3.31)**

Law Name	Chemical Name in Regulation	Ordinance Number	Weight %
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Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Ethanol	61	60-70
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Propyl alcohol	494	30-40
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Iodine and Iodine compounds	606	50-70

## Section 16: OTHER INFORMATION

### Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

### Disclaimer

This SDS is according to JIS Z 7253: 2019. 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, 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.

GHS Classification is according to JIS Z7252(2019). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**