

# SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 14-Jul-2022  
 Revision Number 4.04

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	mtDNA Extractor® CT Kit
<b>Product Code</b>	291-55301

**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>Skin corrosion/irritation</b>	Category 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Respiratory sensitization</b>	Category 1
<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	
<b>Category 3</b> Respiratory irritation, Narcotic effects	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 1
<b>Category 1</b> liver	
<b>Acute aquatic toxicity</b>	Category 3

**Pictograms**



**Signal word** Danger

**Hazard statements**

- H225 - Highly flammable liquid and vapor
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H340 - May cause genetic defects
- H360 - May damage fertility or the unborn child
- H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness  
 H402 - Harmful to aquatic life  
 H370 - Causes damage to the following organs: central nervous system  
 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
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- In case of inadequate ventilation wear respiratory protection
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- 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 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 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: Rinse mouth. Do NOT induce vomiting
- 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
Buffer for Homogenate	-	N/A	N/A	N/A	N/A-29-5530-1
DNA Extraction Solution I	-	N/A	N/A	N/A	N/A-29-5530-2
DNA Extraction Solution IIA	-	N/A	N/A	N/A	N/A-29-5530-3
DNA Extraction Solution IIB	-	N/A	N/A	N/A	N/A-29-5530-4
DNA Extraction Solution III	-	N/A	N/A	N/A	N/A-29-5530-5
Sodium Iodide Solution	-	N/A	N/A	N/A	N/A-29-5530-6
Washing Solution	-	N/A	N/A	N/A	N/A-29-5530-7

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

**Impurities and/or Additives:**

Hazardous Component

Not applicable

Ethanol 70%, Acetic acid >10%, Sodium Iodide >1%, Dodecyl sodium sulfate >1%, Sodium hydroxide >1%

**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). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**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
Sodium Hydroxide 1310-73-2	2mg/m <sup>3</sup>	N/A	Ceiling: 2 mg/m <sup>3</sup>
Ethanol 64-17-5	N/A	N/A	STEL: 1000 ppm
Acetic Acid 64-19-7	TWA: 10 ppm OEL TWA: 25 mg/m <sup>3</sup> OEL	N/A	STEL: 15 ppm TWA: 10 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

<b>Reactivity</b>	no data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Halides

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Dodecyl Sulfate	1,200 mg/kg (Rat)	200 mg/kg (Rabbit)	> 3900 mg/m <sup>3</sup> (Rat) 1 h
Ethanol	6200 mg/kg (Rat)	20000 mg/kg (Rabbit)	63000 ppmV (Rat) 4 h
Acetic Acid	3310 mg/kg (rat)	1060 mg/kg (rabbit)	N/A
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
Sodium Hydroxide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Acetic Acid	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
Sodium Hydroxide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Acetic Acid	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
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

### Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.

Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

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

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Sodium Hydroxide	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.
Acetic Acid	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sodium Hydroxide	N/A	N/A	LC50 : <i>Ceriodaphnia pulchella</i> 40 mg/L 48 h
Sodium Dodecyl Sulfate	EC50: <i>Desmodesmus subspicatus</i> 53 mg/L 72 h	LC50: <i>Oncorhynchus mykiss</i> 4.3 - 8.5 mg/L 96 h	LC50 : <i>Acartia tonsa</i> 0.12 mg/L 96 h

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
Acetic Acid	N/A	<i>LC50 : Pimephales promelas</i> 79 mg/L 96 h	<i>EC50 : Daphnia magna</i> 65000 ug/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
Sodium Hydroxide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium Dodecyl Sulfate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Acetic Acid	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
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Marine pollutant</b>	Not applicable

**IMDG**

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

**IATA**

<b>UN number</b>	UN1170
<b>Proper shipping name:</b>	Ethanol solution
<b>UN classification</b>	3
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Environmentally Hazardous Substance</b>	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.61,176,319,606  
 Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)  
**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)** Class 1  
**Class 1 - No.** 275  
**Pollutant Release and Transfer Register Law (2023/4/1~)** Class 1  
**Class 1 - No.** 275,595  
**Export Trade Control Order** Not applicable

### Pollution Release and Transfer Registry (~2023.3.31)

Class	Chemical Name in Regulation	(Metal Name)	Ordinance Number	Content Rate
Class 1	Dodecyl sodium sulfate		275	>1

### Industrial Safety and Health Law (~2024.3.31)

Law Name	Chemical Name in Regulation	Ordinance Number	Weight %
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Ethanol	61	70
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Acetic acid	176	>10
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Sodium hydroxide	319	>1
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	>1

## 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**