

## Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cortisol (Saliva) EIA / New type  
Product number: YK241  
Manufacturer: YANAIHARA INSTITUTE, INC.  
Address: 2480-1, Awakura, Fujinomiya-shi  
Shizuoka, Japan 418-0011  
Tel: +81-544-22-2771(Japan)  
Fax: +81-544-22-2770  
E-mail: ask@yanaihara.co.jp  
First issue: Nov. 27, 2023  
Third issue: Mar. 16, 2026

### 2. HAZARDS IDENTIFICATION

#### GHS classification

Classification of the substance or mixture 7)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure) Category 1 respiratory system	Category 1
Specific target organ toxicity (repeated exposure) Category 1 respiratory system	Category 1
Aquatic environmental toxicity/Chronical phase	Category 2

#### Pictograms



Signal word            Danger

#### Hazard statements

H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H332 - Harmful if inhaled  
H370 - Causes damage to the following organs: respiratory system  
H372 - Causes damage to the following organs through prolonged or repeated exposure: respiratory system  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements-(Prevention)

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/fumes/gas/mist/vapors/spray.  
Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Use personal protective equipment as required.

Precautionary statements-(Response)

IF SWALLOWED: Rinse mouth. Do not induce vomiting.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Wash contaminated clothing before reuse.

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

Other reagents may be harmful if inhaled and ingested. May cause eye and skin irritation.

### 3. COMPOSITION, INFORMATION ON INGREDIENTS

Product Name	CAS Number
Cortisol (Saliva) EIA / New type	None

#### Kit components:

No.	Component	Quantity	Chemical name	Wt%	CAS No.	Chemical Formula
1)	Antibody Coated Plate	1 plate	Monoclonal anti-cortisol antibodies ①			
2)	Cortisol Standard	0.12 µg	Synthetic cortisol ②		50-23-7	C21H30O5
3)	HRP-labeled Cortisol	0.15 mL	HRP conjugated cortisol ③			
4)	Buffer Solution	30 mL	BSA-containing PBS buffer④			
5)	TMB Substrate	12 mL	BSA⑤ 3,3',5,5'-Tetramethylbenzidine ⑥	0.1% No information	9048-46-8 54827-17-7	C16H20N2
6)	Washing Solution (concentrated)	50 mL	Sodium chloride ⑦ Polyoxyethylene sorbitan monolaurate (Tween20) ⑧	18% 1%	7647-14-5 9005-64-5	NaCl C58H114O26
7)	Reaction Stopping Solution	12 mL	Sulfuric acid (1M) ⑨	9.69%	7664-93-9	H2SO4
8)	Adhesive Foil	2 sheets				

### 4. FIRST AID MEASURES

**Inhalation:** Immediately remove victim to fresh air. Consult a physician if necessary.

**Eye contact:** Immediately flush eyes with flooding amounts of running water for at least 15 minutes. Consult a physician if necessary.

**Skin contact:** Immediately remove contaminated clothes and shoes, flush skin with plenty of water or shower. Wash contaminated clothing and shoes. Consult a physician if necessary.

**Ingestion:** Immediately seek medical attention.

### 5. FIRE FIGHTING MEASURES

**Flammable properties:** Nonflammable

**Extinguishing media:** Foam, Carbon dioxide, dry chemical powder, soil, water.

**Fire fighting instructions:** May emit toxic fumes under fire conditions. Wear full fire fighting protective equipment including self-contained breathing apparatus. Do not contact to the components when extinguish fire.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Remove all ignition sources and ventilate. Wear suitable protective equipment. Avoid contact with skin and eyes. Keep off except persons concerned.

**Environmental precautions:** Prevent spills from entering sewers, watercourses or low area, and prevent from affecting environment.

**Methods for Clean up:** In case of spill of liquid material, take up or cover spilled material with ashes or other incombustible absorbents, and put in a container to be sealed. After completely picked up, dispose. In case of spill of solid or powder material, prevent causing dust, sweep and collect, and put in a container to be sealed.

Wash the spill site with water.

---

## 7. HANDLING AND STORAGE

- Handling:** Obtain a package insert before use.  
Read all the cautions for safety in the package insert before use.  
Avoid strong light.  
Avoid contact, inhalation and swallow.  
Use only in open air or ventilated area.  
Prevent from entering eyes.  
Ventilate the area to keep concentration in air below exposure limits.  
Avoid inhalation of mist, vapor and spray of material.  
Avoid contact with eyes, skin and clothing.  
Do not smoke and eat while using this kit.  
Wash hands thoroughly after handling.  
Prevent from entering environment.  
Handle materials with suitable protection.  
Use suitable equipments.  
Do not pipette by mouth.  
Do not leak, overflow and scatter.  
Do not fall down and damage.
- Storage:** Store away from sunlight in a cool and dark place at 36-47°F (2-8°C).

---

## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering measures:** General ventilation and/or local exhaust ventilation as well as process isolation is necessary to minimize employee exposure and maintain exposure limits below exposure limits. Equip eye flushing facilities and shower rooms near operating place where this kit is handled or stored.

**Control parameter:** ⑨ JSOH (Japan); OEL= 1 mg/m<sup>3</sup>  
ACGIH TLV(s); TWA= 0.2 mg/m<sup>3</sup>

**Personal protection:**

Respiratory protection; NIOSH and MSHA approved respirator.  
Hand protection; Suitable impervious gloves.  
Eye protection; Suitable safety glasses (goggles).  
Skin protection; Suitable protective clothing.

**Others:** Wash hands thoroughly after handling materials.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Component	1)	2)	3)	4)	5)	6)	7)	8)
Appearance	Colorless plate	White color, lyophilized powder	Orange color, Liquid	Colorless transparent, Liquid	Colorless to pale yellow liquid	Colorless transparent, Liquid	Colorless transparent, Liquid	Colorless transparent Polymer sheet
pH	N/A	N/A	N/A	7.1	3.3-3.8	D/N/A	<1.0	N/A
Melting point	N/A	D/N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boiling point	N/A	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A
Flash point	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A
Explosive limits	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A
Vapor pressure	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A
Vapor density (air=1)	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A
Specifics gravity	D/N/A	D/N/A	D/N/A	D/N/A	1.01	D/N/A	D/N/A	D/N/A
Solubility in water	Insoluble	Soluble	Mixable	Mixable	Mixable	Mixable	Mixable	Insoluble
Decomposition temperature	N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A	N/A

N/A: Not applicable  
 D/N/A: data not available

## 10. STABILITY AND REACTIVITY

**Chemical stability:** Product is stable under normal handling.  
**Shelf life:** Stable up to 18 months (temporary) after manufacturing.  
**Hazardous polymerization:** Will not occur.  
**Conditions to avoid:** Extremes of temperature and direct sunlight, heat, flames and sparks, static electricity, spark, moisture  
**Incompatibility with other materials:** Alkaline substances, metals, strong oxidizing agents  
**Hazardous decomposition products:** Sulfur oxides(SO<sub>x</sub>), Carbon monoxide(CO), carbon dioxide(CO<sub>2</sub>),

## 11. TOXICOLOGICAL INFORMATION

Information as the mixture is not available.

**Acute toxicity:**

- 5) No data available
- 6) Tween 20 (oral, rat); LD50=37000mg/kg  
 Inhalation (rat); >5.1mg/L, 4h
- 7) Sulfuric acid (inhalation, rat); 4h LC50=347ppm  
 (Oral, rat) LD50=2140mg/kg  
 Acute toxicity (Oral) Not classified  
 Acute toxicity (Inhalation: Dusts and mists) Category 2  
 ⑨Content=9.69% Acute toxicity (Inhalation: Dusts and mists) Category 4

**Skin corrosion/irritation:**

- 5) No data available
- 6) Tween 20 ; No information available
- 7) Sulfuric acid; Category 1  
 ⑨Content=9.69% Category 1

Serious eye damage/irritation:

- 5) No data available
- 6) Tween 20 ; No information available
- 7) Sulfuric acid; Category 1
- ⑨Content=9.69% Category 1

Respiratory or skin sensitization:

Respiratory sensitization

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Classification not possible

Skin sensitization:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Not classified

Germ cell mutagenicity:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Classification not possible

Carcinogenicity:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Occupational exposure to Mist of inorganic strong acids including sulfuric acid is classified to group 1 in IARC (to have carcinogenicity for human ), group A2 in ACGIH (suspected human carcinogens) and group K in NTP (known to have carcinogenicity for human). With respect for the evaluation by IARC and current evaluation by NTP, it should be classified to category 1, however since sulfuric acid itself is classified to Category 4 in DFGOT and is not classified to carcinogen by any other organization, Classification not possible

Reproductive toxicity:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Not classified

Specific target organ systemic toxicity/Single exposure:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Category 1 (Respiratory system)
- ⑨Content=9.69% Category 1

**Specific target organ systemic toxicity/Repeated exposure:**

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Category 1 (Respiratory system)
- ⑨Content=9.69% Category 1

**Aspiration hazard:**

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Classification not possible

---

**12. ECOLOGICAL INFORMATION**

Information as the mixture is not available.

**Aquatic environmental toxicity/Acute phase:**

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; 96-hour LC50 (pH 3.25-3.5) = 16-28 mg/L for fish (*Lepomis macrochirus*) (OECD SIDS: 2001). Category 3
- ⑨Content=9.69% Not classified

**Aquatic environmental toxicity/Chronical phase:**

- 5) No data available.
- 6) Tween 20; No information available
- 7) Sulfuric acid; 45-day NOEC (growth) (pH6.0) = 0.025 mg/L for fish (*Jordanella floridae*) (OECD SIDS: 2001) Category 1
- ⑨Content=9.69% Category 2

**Persistence and degradability:**

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; No information available

**Bioaccumulative potential:**

- 5) No data available
- 6) Tween 20; No data available
- 7) Sulfuric acid; No information available

**Mobility in soil:**

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; No information available

**Hazard to the ozone layer:**

- 5) No data available
- 6) Tween 20; No information available

7) Sulfuric acid; Classification not possible

---

13. DISPOSAL CONSIDERATIONS

Dispose of all waste material including containers in accordance with all applicable laws and local environmental regulations.

---

14. TRANSPORT INFORMATION

IATA; As a mixture, the substance is subjected to no limitations.

ADR/RID	
UN number	UN2796
Proper shipping name:	Sulfuric acid
UN classification	8
Packing group	II
Marine pollutant	Not applicable
IMDG	
UN number	UN2796
Proper shipping name:	Sulfuric acid
UN classification	8
Packing group	II
Marine pollutant	Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available
IATA	
UN number	UN2796
Proper shipping name:	Sulfuric acid
UN classification	8
Packing group	II
Environmentally Hazardous Substance	Not applicable

---

## 15. REGULATORY INFORMATION

International Inventories EINECS/ELINCS TSCA	⑨Listed ⑨Listed
Fire Service Act;	Not applicable
Poisonous and Deleterious Substances Control Law;	Not applicable
Industrial Safety and Health Act;	⑨Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ⑨Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table 9) No.613 ⑨Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.;	Not applicable
Regulations for the carriage and storage of dangerous goods in ship;	⑨Corrosive Substances(Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage Attached Table 1)
Civil Aeronautics Law;	⑨Corrosive Substances(Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc. Attached Table 1)
Marine Pollution Prevention Law;	⑨Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register Law/ PRTR); Water Pollution Control Act;	Not Applicable  ⑨Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order ; Air Pollution Control Law;	Not applicable ⑨Specified substance

---

## 16. OTHER INFORMATION

### Reference and abbreviation

- 1) Internal data of Yanaihara Institute, Inc.
- 2) OECD SIDS: Screening Information Data Set (OECD SIDS 2001)
- 3) RTECS : Registry of Toxic Effects of Chemical Substances.
- 4) NTP DB (Access on Dec., 2005), National Toxicology Program
- 5) SDS by FUJI FILM Wako Pure Chemical Corporation
- 6) ACGIH(2004): American Conference of Governmental Industrial Hygienists
- 7) JSOH : Japanese Society of Occupational Health  
Recommendation of Occupational Exposure Limits (2021-2022)
- 8) NIOSH: National Institute of Occupational Safety and Health
- 9) MSHA: Mine Safety and Health Administration
- 10) IARC(1992): International Agency for Research on Cancer
- 11) DFGOT: Occupational Toxicants: Critical Data Evaluation for MAK Value and Classification of Carcinogens,  
Vol. 15, 2001
- 12) SDS by Bio-Rad laboratories, Life Science Group

### 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.

The above information is believed to be correct to be the best of our knowledge and information, but does not purport to be all inclusive and should be used as only a guide. This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk. Yanaihara institute shall not be held liable for any damages resulting from handling or contact with the above product. Users should determine the suitability of the information for their particular purpose.