

## Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Corticosterone EIA  
Product number: YK240  
Manufacturer: YANAIHARA INSTITUTE, INC.  
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### 2. HAZARDS IDENTIFICATION

#### GHS classification

Classification of the substance or mixture 6)

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
Category 1 respiratory system	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 respiratory system	
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  
 Corticosterone EIA

CAS Number  
 None

#### Kit components:

No	Component	Quantity	Chemical name	Wt%	CAS No.	Chemical Formula
1)	Antibody Coated Plate	1 plate	Plate coated with goat anti rabbit IgG antibody ①			
2)	Corticosterone Standard	50 ng	Synthetic corticosterone ②		50-22-6	C21H30O4
3)	HRP-Labeled Corticosterone	0.3 mL	Horse radish peroxidase- Corticosterone ③			
4)	Specific Antibody	7 mL	Rabbit anti Corticosterone antibody ④			
5)	TMB Substrate	12 mL	3,3',5,5'-Tetramethylbenzidine ⑤	No Information	54827-17-7	C16H20N2
6)	Reaction Stopping Solution	12 mL	Sulfuric acid (1M) ⑥	9.69%	7664-93-9	H2SO4
7)	Buffer Solution	10 mL	Sodium hydrogen phosphate ⑦ BSA⑧	0.3%	7558-80-7 9048-46-8	NaH2PO4
8)	Sample Diluent	50 mL	A specific CBG displacer⑨	0.1-0.7%		
9)	Concentrated Wash Solution	25 mL	Sodium chloride ⑩ Polyoxyethylene sorbitan monolaurate (Tween20) ⑪	18% 1%	7647-14-5 9005-64-5	NaCl C58H114O26
10)	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



## 9. PHYSICAL AND CHEMICAL PROPERTIES

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)
Appearance	Colorless plate	White color lyophilized powder	Colorless transparent liquid	Colorless transparent liquid	Colorless to pale yellow liquid	Colorless transparent liquid	Colorless transparent liquid	Colorless transparent liquid	Colorless transparent liquid	Colorless transparent polymersheet
pH	N/A	N/A	D/N/A	D/N/A	3.3-3.8	D/N/A	6.8	D/N/A	D/N/A	N/A
Melting point	N/A	D/N/A	N/A	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	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	D/N/A	D/N/A	N/A
Explosive limits	N/A	D/N/A	D/N/A	D/N/A	Not explosive	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	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	D/N/A	D/N/A	N/A
Specific gravity	D/N/A	D/N/A	D/N/A	D/N/A	1.01	D/N/A	D/N/A	D/N/A	D/N/A	D/N/A
Solubility in water	Insoluble	Soluble	Mixable	Mixable	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	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 24 months 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(SOx), Carbon monoxide(CO), carbon dioxide(CO2)

## 11. TOXICOLOGICAL INFORMATION

Information as the mixture is not available.

Acute toxicity:

- 5) No data available
- 6) 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  
 ⑥Content=9.69% Acute toxicity (Inhalation: Dusts and mists) Category 4
- 9) Tween 20 (oral, rat); LD50=37000mg/kg  
 Inhalation (rat); >5.1mg/L, 4h

Skin corrosion/irritation:

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

**Serious eye damage/irritation:**

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

**Respiratory or skin sensitization:**

**Respiratory sensitization**

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

**Skin sensitization**

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

**Germ cell mutagenicity:**

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

**Carcinogenicity:**

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

**Reproductive toxicity:**

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

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

- 5) No data available
- 6) Sulfuric acid; Category 1 (Respiratory system)  
⑥Content=9.69% Category 1

9) Tween 20; No information available

Specific target organ systemic toxicity/Repeated exposure:

5) No data available

6) Sulfuric acid; Category 1 (Respiratory system)

⑥Content=9.69% Category 1

9) Tween 20; No information available

Aspiration hazard:

5) No data available

6) Sulfuric acid; Classification not possible

9) Tween 20; No information available

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## 12. ECOLOGICAL INFORMATION

Information as the mixture is not available.

Aquatic environmental toxicity/Acute phase:

5) No data available.

6) Sulfuric acid; 96h LC50=16-28mg/L for fish (*Lepomis macrochirus*)  
Category 3

6) Sulfuric acid; 96-hour LC50 (pH 3.25-3.5) = 16-28 mg/L for fish (*Lepomis macrochirus*) (OECD SIDS: 2001). Category 3

⑥Content=9.69% Not classified

9) Tween 20; No information available

Aquatic environmental toxicity/Chronical phase:

5) No data available.

6) Sulfuric acid; 45-day NOEC (growth) (pH6.0) = 0.025 mg/L for fish  
(*Jordanella floridae*) (OECD SIDS: 2001) Category 1

⑥Content=9.69% Category 2

9) Tween 20; No information available

Persistence and degradability:

5) No data available

6) Sulfuric acid; No information available

9) Tween 20; No information available

Bioaccumulative potential:

5) No data available

6) Sulfuric acid; No information available

9) Tween 20; No data available

Mobility in soil:

5) No data available

6) Sulfuric acid; No information available

9) Tween 20; No information available

Hazard to the ozone layer:

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

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### 13. DISPOSAL CONSIDERATIONS

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

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### 14. TRANSPORT INFORMATION

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

ADR/RID	Sulfuric acid
UN number	UN2796
Proper shipping name:	Sulfuric acid
UN classification	8
Packing group	II
Marine pollutant	Not applicable
IMDG	Sulfuric acid
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	Sulfuric acid
UN number	UN2796
Proper shipping name:	Sulfuric acid
UN classification	8
Packing group	II
Environmentally Hazardous Substance	Not applicable

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## 15. REGULATORY INFORMATION

International Inventories EINECS/ELINCS TSCA	⑥Listed ⑥Listed
Fire Service Act;	Not applicable
Poisonous and Deleterious Substances Control Law; Industrial Safety and Health Act;	Not applicable ⑥Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ⑥Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No. 9) No.613 ⑥Group 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.; Regulations for the carriage and storage of dangerous goods in ship;	Not applicable ⑥Corrosive Substances(Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law;	⑥Corrosive Substances(Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc. , Attached Table 1)
Marine Pollution Prevention Law;	⑥Enforcement 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 ⑥Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order; Air Pollution Control Law;	Not applicable ⑥Specified substance

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## 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.

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