

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: DHEA (Saliva) EIA
Product number: YK290
Manufacturer: YANAIHARA INSTITUTE, INC.
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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
DHEA (Saliva) EIA

CAS Number
None

Kit components:

No.	Component	Quantity	Chemical name	Wt%	CAS No.	Chemical Formula
1)	Antibody Coated Plate	1 plate	Anti-DHEA antibodies ①			
2)	DHEA Standard	36.45ng	Dehydroepiandrosterone ②		53-43-0	C19H28O2
3)	HRP-Labeled DHEA	0.6 mL	Horse radish peroxidase- DHEA ③			
4)	Buffer Solution	30 mL	Bovine milk protein④			
5)	TMB Substrate	12 mL	3,3',5,5'-Tetramethylbenzidine ⑤	No Information	54827-17-7	C16H20N2
6)	Concentrated Wash Solution	50 mL	Sodium chloride ⑥	18%	7647-14-5	NaCl
			Polyoxyethylene sorbitan monolaurate (Tween20) ⑦	1%	9005-64-5	C58H114O26
7)	Reaction Stopping Solution	12 mL	Sulfuric acid (1M) ⑧	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: No restriction; use any means suitable for extinguishing surrounding fire.
Firefighting 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

9. PHYSICAL AND CHEMICAL PROPERTIES

Component	1)	2)	3)	4)	5)	6)	7)	8)
Appearance	Colorless plate	White color lyophilized powder	Yellowish transparent liquid	Colorless transparent liquid	Colorless to pale yellow liquid	Colorless transparent liquid	Colorless transparent liquid	Colorless transparent polymersheet
pH	N/A	N/A	7.4	6.8	3.3-3.8	7.4	<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	Not explosive	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
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
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 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) 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
 ⓈContent=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
 ⓈContent=9.69% Category 1

Serious eye damage/irritation:

- 5) No data available
- 6) Tween 20; No information available
- 7) Sulfuric acid; Category 1
- ⑧Content=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)

- ⑧Content=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)
- ⑧Content=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
- ⑧Content=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
- ⑧Content=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	ⓈListed ⓈListed
Fire Service Act;	Not applicable
Poisonous and Deleterious Substances Control Law; Industrial Safety and Health Act;	Not applicable Ⓢ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.613 ⓈGroup 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;	ⓈCorrosive Substances(Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law;	ⓈCorrosive Substances(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 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);	Not Applicable
Water Pollution Control Act;	ⓈSpecified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order ; Air Pollution Control Law;	Not applicable ⓈSpecified 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.

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