

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cortisol (Saliva) EIA / New type
Product number: YK241
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 |

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

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
Cortisol (Saliva) EIA / New type

CAS Number
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/m³
 ACGIH TLV(s); TWA= 0.2 mg/m³

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(SOx), Carbon monoxide(CO), carbon dioxide(CO2), Nitrogen oxides(NOx)

11. TOXICOLOGICAL INFORMATION

Information as the mixture is not available.

Acute toxicity:

- 5) Not classified
- 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) Category 5
 Acute toxicity (Inhalation: Dusts and mists) Category 2
 ⑨Content=9.69% Acute toxicity (Inhalation: Dusts and mists) Category 3

Skin corrosion/irritation:

- 5) Not classified
- 6) Tween 20 ; No information available
- 7) Sulfuric acid; Category 1
 ⑨Content=9.69% Category 1

Serious eye damage/irritation:

- 5) Not classified
- 6) Tween 20 ; No information available
- 7) Sulfuric acid; Category 1
- ⑨Content=9.69% Category 1

Respiratory or skin sensitization:

Respiratory sensitization

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

Skin sensitization:

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

Germ cell mutagenicity:

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

Carcinogenicity:

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

Specific target organ systemic toxicity/Single exposure:

- 5) Not classified
- 6) Tween 20; No information available
- 7) Sulfuric acid; Category 1 (Respiratory system)
- ⑨Content=9.69% Category 2

Specific target organ systemic toxicity/Repeated exposure:

- 5) Not classified
- 6) Tween 20; No information available
- 7) Sulfuric acid; Category 1 (Respiratory system)
- ⑨Content=9.69% Category 2

Aspiration hazard:

- 5) No information 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; 96h LC50=16-28mg/L for fish (*Lepomis macrochirus*)
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; 24h LC50=29mg/L for crustacea (*Daphnia magna*)
Category 1
- ⑨Content=9.69% Not classified

Persistence and degradability:

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

Bioaccumulative potential:

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

Mobility in soil:

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

Hazard to the ozone layer:

- 5) No additional information 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) RTECS : Registry of Toxic Effects of Chemical Substances.
- 3) NTP DB (Access on Dec., 2005), National Toxicology Program
- 4) SDS by FUJI FILM Wako Pure Chemical Corporation
- 5) ACGIH(2004): American Conference of Governmental Industrial Hygienists
- 6) JSOH : Japanese Society of Occupational Health
Recommendation of Occupational Exposure Limits (2021-2022)
- 7) NIOSH: National Institute of Occupational Safety and Health
- 8) MSHA: Mine Safety and Health Administration
- 9) DFGOT: Occupational Toxicants: Critical Data Evaluation for MAK Value and Classification of Carcinogens,
Vol. 15, 2001
- 10) 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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