

## Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mouse/Rat CRF-HS ELISA Kit  
Product number: YK131  
Manufacturer: YANAIHARA INSTITUTE, INC.  
Address: 2480-1, Awakura, Fujinomiya-shi  
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First issue: March 14, 2008  
Third issue: June 27, 2017

### 2. HAZARDS IDENTIFICATION

#### GHS classification

Classification of the substance or mixture 4), 6)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1A, 2
Serious eye damage/eye irritation	Category 1, 2A
Specific target organ toxicity (single exposure)	Category 1
Category 1 respiratory system, cardiovascular system, kidneys, nervous system	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 respiratory system, cardiovascular system, liver, digestive system, blood system, kidneys, pancreas, thymus, central nervous system	
Germ cell mutagenicity	Category 1B
Reproductive Toxicity	Category 1B

#### Pictograms



Signal word            Danger

#### Hazard statements

H314 - Causes severe skin burns and eye damage  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H340 - May cause genetic defects  
H360 - May damage fertility or the unborn child  
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  
Use personal protective equipment as required.  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/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

Precautionary statements-(Response)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Call a POISON CENTER or doctor/physician if you feel unwell  
IF ON SKIN: Wash with plenty of soap and water  
IF exposed or concerned: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If skin irritation or rash occurs: Get medical advice/attention  
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

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**  
 Mouse/Rat CRF-HS ELISA Kit

**CAS Number**  
 None

**Kit components:**

No.	Component	Quantity	Chemical name	Wt%	CAS No.	Chemical Formula
1)	Antibody coated plate	1 plate	Plate coated with rabbit anti mouse/rat CRF antibody ①			
2)	Standard antigen	2.5 ng	Synthetic mouse/rat CRF (1-41) ②			
3)	Labeled antibody solution	12 mL	Biotinylated rabbit anti mouse/rat CRF antibody ③			
4)	SA-HRP solution	12 mL	HRP labeled Streptavidin④			
			Phenol⑤	0.096%	108-95-2	C6H5OH
			Chloramphenicol⑥	0.02%	56-75-7	C11H12CL2N2O2
5)	Enzyme substrate solution	12 mL	3,3',5,5' -Tetramethylbenzidine⑦	No information	54827-17-7	
6)	Stopping solution	12 mL	Sulfuric acid (1M) ⑧	9.69%	7664-93-9	H2SO4
7)	Buffer solution	20 mL	Buffer containing a reaction accelerator ⑨			
8)	Washing solution (concentrated)	50 mL	Sodium chloride ⑩	18%	7647-14-5	NaCl
			Polyoxyethylene sorbitan monolaurate (Tween20) ⑪	1%	9005-64-5	C22H42O3
9)	Adhesive foil	3 pieces				

### 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.

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## 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).

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## 8. EXPOSURE CONTOROLS, 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:**

⑤ OSHA Final Limits;	TWA= 5 ppm
JSOH (Japan);	TWA= 5 ppm OEL
	TWA= 19mg/m3 OEL skin
ACGIH TLV(s);	TWA= 5 ppm skin
⑧ OSHA Final Limits;	TWA= 1 mg/m3
JSOH (Japan);	TWA= 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)	9)
Appearance	Colorless plate	White color, lyophilized powder	Colorless transparent, Liquid	Orange color, Liquid	Colorless to pale yellow liquid	Colorless transparent, Liquid	Colorless transparent, Liquid	Colorless transparent, Liquid	Colorless transparent Polymer sheet
pH	N/A	N/A	7.5	N/A	3.3-3.8	<1.0	7.0	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
Boiling point	N/A	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	N/A
Explosive limits	N/A	D/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	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	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
Solubility in water	Insoluble	Soluble	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	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(SO<sub>x</sub>), Carbon monoxide(CO), carbon dioxide(CO<sub>2</sub>), Nitrogen oxides(NO<sub>x</sub>)

## 11. TOXICOLOGICAL INFORMATION

Information as the mixture is not available.

**Acute toxicity** : 4) Phenol (oral, rat); LD50=375mg/kg  
 (dermal rabbit) LD50=670mg/kg  
 Chloramphenicol (oral, rat); LD50=2500mg/kg  
 ATE=319.8  
 Hazard statement; Harmful if swallowed.  
 5) Not classified  
 6) Sulfuric acid (inhalation, rat); 2H LC50=510mg/m<sup>3</sup>  
 (oral, rat) LD50=2140mg/kg  
 Category 4  
 Hazard statement; Harmful if inhaled.  
 Content=9.69%  
 8) Tween 20 (oral, rat); LD50=37000mg/kg  
 Sodium chloride (oral, rat); LD50=3000mg/kg  
 Not classified

**Skin corrosion/irritation:**

4) Phenol; Based on the NITE GHS classification results.  
 Category 2  
 Hazard statement; Causes skin irritation.

Content=0.096%

Chloramphenicol; Information not available.

Not classified

5) Not classified

6) Sulfuric acid; Based on the NITE GHS classification.

Category 1A

Hazard statement; Causes severe skin burns and eye damage.

Content=9.69%

8) Tween 20 (skin, human); 15mg/3days, Mild

Sodium chloride (skin, rabbit); 500mg/24H, Mild

Category 3

Hazard statement; Skin irritant

**Serious eye damage/irritation:**

4) Phenol; Based on the NITE GHS classification results.

Category 2A

Hazard statement; Causes serious eye irritation.

Content=0.096%

Chloramphenicol; Information not available.

Not categorized

5) Not classified

6) Sulfuric acid; Based on the NITE GHS classification results.

Category 1

Hazard statement; Causes serious eye damage.

Content=9.69%

8) Tween 20 (eye); R-phase(s) =R36 (Irritating to eyes)

Sodium chloride (eye, rabbit); 100mg/24H, Medium

Category 2B

Hazard statement; Causes eye irritation.

**Respiratory or skin sensitization:**

**Respiratory sensitization**

4) Phenol; Based on the NITE GHS classification results.

Chloramphenicol; Information not available.

5) Not classified

6) Sulfuric acid; No data available.

**Skin sensitization**

4) Phenol; Based on the NITE GHS classification results.

Chloramphenicol (skin); Causes allergic skin reaction. Content=0.02%

Not classified

5) Not classified

6) Sulfuric acid; No data available.

**Germ cell mutagenicity:**

4) Phenol; Based on the NITE GHS classification results.

Category 1B

Hazard statement; May cause genetic defects.  
Content=0.096%

Chloramphenicol; Information not available.

- 5) Not classified
- 6) Sulfuric acid; No data available.

**Carcinogenicity:**

- 4) Phenol; IARC group 3 (substances which can not be classified to human carcinogens), ACGIH: A4 (2005), IRIS: D (2002)  
Chloramphenicol; IARC group 2A (substances which may be carcinogenic to human), Content=0.02%  
Not classified
- 5) Not classified
- 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, component 6) can not be classified.

**Reproductive toxicity:**

- 4) Phenol; Based on the NITE GHS classification results.  
Category 1B  
Hazard statement; May damage fertility or the unborn child.  
Content=0.096%  
Chloramphenicol; Information not available.
- 5) Not classified
- 6) Sulfuric acid; No data available.

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

- 4) Phenol; Based on the NITE GHS classification results.  
Category 1 respiratory system, cardiovascular system, kidney and nervous system  
Hazard statement; Causes damage to following organs: respiratory system, cardiovascular system, kidneys, nervous system.  
Content=0.096%  
Chloramphenicol; Information not available.
- 5) Not classified
- 6) Sulfuric acid; Based on the NITE GHS classification results.  
Category 1 respiratory system  
Hazard statement; Causes damage to the following organs: respiratory system.  
Content=9.69%

Specific target organ systemic toxicity/Repeated exposure:

- 4) Phenol; Based on the NITE GHS classification results.

Category 1 cardiovascular system, liver, digestive system, blood system,  
kidney, pancreas, thymus, central nervous system

Hazard statement: Causes damage to the following organs through  
prolonged or repeated exposure: cardiovascular system, liver,  
digestive system, blood system, kidneys, pancreas, thymus,  
central nervous system.

Content=0.096%

Chloramphenicol; Information not available.

- 5) Not classified

- 6) Sulfuric acid; Based on the NITE GHS classification results.

Category 1 respiratory system

Hazard statement: Causes damage to respiratory system with long term or  
repeated exposure: respiratory system.

Content=9.69%

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## 12. ECOLOGICAL INFORMATION

Information as the mixture is not available.

Aquatic environmental toxicity/Acute phase:

- 4) Phenol; Ceriodaphnia: EC50=3.1mg/L/48h (EU-RAR, 2002)

Algae/aquatic plants (*Pseudokirchneriella subcapitata*)

96H EC50=46.42 mg/L

Fish (*Pimephales promelas*) 96H LC50=11.9-50.5mg/L

Crustacea (*Daphnia magna*), 48H EC50=4.24-10.7 mg/L

Chloramphenicol; 96H LC50=15-42  $\mu$ g/L

Component 4) is not classified.

- 5) No information available.

- 6) Sulfuric acid; In fish (Bluegill), 96H LC50=16-28mg/L

*Daphnia magna* 24H EC50=29mg/L

Hazard statement: Harmful to aquatic life.

Aquatic environmental toxicity/Chronical phase:

- 4) Phenol; Based on the NITE GHS classification results.

Chloramphenicol; Has rapid degradability.

Component 4) is not classified.

- 6) Sulfuric acid; Based on the NITE GHS classification results.

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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.



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## 15. REGULATORY INFORMATION

### International Inventories

EINECS/ELINCS           Listed  
TSCA                       Listed

### Japanese regulations

Fire Service Act; Not applicable

Poisonous and Deleterious Substances Control Law; Not applicable

Industrial Safety and Health Act;

Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6)  
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 No.613, 474

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.;

Priority Assessment Chemical Substances (Law Article 2, Para.5)

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)

Civil Aeronautics Law;

Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc.)

Marine Pollution Prevention Law Pollutant Release and Transfer Register Law;

Class 1

Class 1 - No. 349

Air pollution Control Law; Specified substance

EU Directive 1999/45/EC; classification, packaging and labeling of dangerous Preparations

SYMBOL : C as component 6)

R-phrases : 35 as component 6)

S-phrases : 26-45 as component 6)

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of accident or if you feel unwell, seek medical advice immediately.

EC index No. : ⑤=604-001-00-2, ⑦=259-364-6 ⑧=016-020-00-8

Other ingredients=Not listed.

Follow all the regulations in your country.

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## 16. OTHER INFORMATION

### Reference

- 1) Internal data of Yanaihara Institute, Inc.
- 2) Chemwatch MSDS
- 3) RTECS (2006)
- 4) EU RAR (2003)
- 5) SIDS (2001)
- 6) Environmental Risk Assessment of Chemicals Vol.3 (Ministry of environment, Japan) (2004)
- 7) ATSDR (1998)
- 8) SIDS (2001)
- 9) DFDS (2001)
- 10) EU- RAR (2002)
- 11) SIDS (2003)
- 12) CERi-NITE Hazard Assessment Report (2005)
- 13) NTP DB (Access on Dec., 2005)
- 14) Narotsky and Kavlock (1995)
- 15) EHC 161 (1994)
- 16) MSDS by Wako Pure Chemical Industries, Ltd.
- 17) ECETOC JACC (1993)
- 18) ACGIH (2001)
- 19) NITE Biodegradation and Bioconcentration of the Existing Chemical Substances
- 20) PHYSPROP Database (2005)
- 21) IUCLID (2000)
- 22) HSDB (2006)
- 23) JSOH Recommendation of Occupational Exposure Limits (1993)
- 24) IARC (1992)
- 25) ACGIH (2004)

### 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.  
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the above product. Users should determine the suitability of the information for their particular  
purpose.