

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 29-Sep-2022  
 Revision Number 1

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Human IGF-I/IGF-1 Quantikine ELISA Kit
<b>Product Code</b>	DG100B, WAKO : 557-35671

**Manufacturer** R&D Systems  
**Supplier** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-2029  
**Emergency telephone number** +81-6-6203-3741 / +81-3-3270-8571  
**Recommended uses and restrictions on use** For research use only

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

## Classification of the substance or mixture

Acute toxicity - Inhalation (Vapors)

Category 4

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

Skin corrosion/irritation

Category 1

Serious eye damage/eye irritation

Category 1

Germ cell mutagenicity

Category 2

Carcinogenicity

Category 1B

Reproductive Toxicity

Category 1B

Specific target organ toxicity (single exposure)

Category 1

Category 1 liver, respiratory system

Specific target organ toxicity (repeated exposure)

Category 1

Category 1 liver, respiratory system

## Pictograms



Signal word

Danger

## Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H341 - Suspected of causing genetic defects

H350 - May cause cancer

H360 - May damage fertility or the unborn child

H370 - Causes damage to the following organs: liver, respiratory system

H372 - Causes damage to the following organs through prolonged or repeated exposure: liver, 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
- Use only outdoors or in a well-ventilated area
- 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

**Precautionary statements-(Response)**

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

**Precautionary statements-(Storage)**

- Store locked up

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Kit (Set of mixtures)

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Color Reagent A	-	N/A	N/A	N/A	895000
Color Reagent B	-	N/A	N/A	N/A	895001
Wash Buffer Concentrate	-	N/A	N/A	N/A	895003
Assay Diluent RD1-99	-	N/A	N/A	N/A	895031
Stop Solution	-	N/A	N/A	N/A	895032
Calibrator Diluent RD5-18	-	N/A	N/A	N/A	895335
Human IGF-1 Microplate	-	N/A	N/A	N/A	899064
Human IGF-1 Conjugate	-	N/A	N/A	N/A	899065
Human IGF-1 Standard	-	N/A	N/A	N/A	899066
Plate Sealers	-	N/A	N/A	N/A	N/A-RNDDG100B

**Note on ISHL No.:** \* in the table means announced chemical substances.

**Impurities and/or Additives:**

Not applicable

Hazardous Component

N,N-Dimethylformamide <25 %, Sulfuric acid 9.8 %

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

## Section 5: FIRE FIGHTING MEASURES

### Suitable extinguishing media

Water spray (fog), Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

### Unsuitable extinguishing media

No information available

### Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

### Special extinguishing method

No information available

### Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

### Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

### Methods and materials for contaminant and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

### Recovery, neutralization

No information available

### Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Handling

#### Technical measures

Avoid contact with strong oxidizing agents. Avoid contact with alkaline substances. Use with local exhaust ventilation.

#### Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

#### Safety handling precautions

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### Storage

#### Safe storage conditions

##### Storage conditions

Please see storage condition on the product label.

##### Safe packaging material

Containers supplied by the manufacturer

#### Incompatible substances

Strong oxidizing agents, Bases

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

### Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
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N,N-Dimethylformamide 68-12-2	10ppm(30mg/m <sup>3</sup> )(Skin)	ISHL/ACL: 10 ppm	TWA: 5 ppm Skin
Sulfuric Acid 7664-93-9	1mg/m <sup>3</sup>	N/A	TWA 0.2mg/m <sup>3</sup>

**Personal protective equipment****Respiratory protection**

Gas mask for acidic gas

**Hand protection**

Impermeable protective gloves

**Eye protection**

protective eyeglasses or chemical safety goggles

**Skin and body protection**

Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Form****Appearance**

Kit (Set of mixtures)

**Odor**

no data available

**Melting point/freezing point**

no data available

**Boiling point, initial boiling point and boiling range**

no data available

**Flammability**

no data available

**Evaporation rate:**

no data available

**Flammability (solid, gas):**

no data available

**Upper/lower flammability or explosive limits****Upper:**

no data available

**Lower:**

no data available

**Flash point**

no data available

**Auto-ignition temperature:**

no data available

**Decomposition temperature:**

no data available

**pH**

no data available

**Viscosity (coefficient of viscosity)**

no data available

**Dynamic viscosity**

no data available

**Solubilities**

No data available

**n-Octanol/water partition coefficient:(log Pow)**

no data available

**Vapour pressure**

no data available

**Specific Gravity / Relative density**

no data available

**Vapour density**

no data available

**Particle characteristics**

no data available

## Section 10: STABILITY AND REACTIVITY

**Stability****Reactivity**

no data available

**Chemical stability**

Stable under recommended storage conditions.

**Hazardous reactions**

None under normal processing

**Conditions to avoid**

Extremes of temperature and direct sunlight

**Incompatible materials**

Strong oxidizing agents, Bases

**Hazardous decomposition products**Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Sulfur oxides (SO<sub>x</sub>)

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide	3000 mg/kg(rat)	3500 mg/kg(rat)	4.7 mg/L 4 h(mouse)(mist)

Sulfuric Acid	2140 mg/kg ( Rat )	N/A	347 ppm ( Rat ) 4 h
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Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

**Skin irritation/corrosion**

Chemical Name	Skin corrosion/irritation source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Chemical Name	Serious eye damage/irritation source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
N,N-Dimethylformamide 68-12-2	-	Group 2A	-	Group 2B
Sulfuric Acid 7664-93-9	-	Group 1	A2	-

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
N,N-Dimethylformamide	EC50: <i>Desmodesmus subspicatus</i> 500 mg/L 96 h	LC50 : <i>Oryzias latipes</i> > 100 mg/L 96 h	EC50 : <i>Daphnia magna</i> 6,800 - 13,900 mg/L 48 h
Sulfuric Acid	N/A	LC50: <i>Lepomis macrochirus</i> 16 - 28 mg/L 96 h	LC50: <i>Daphnia magna</i> 29 mg/L 24 h

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
N,N-Dimethylformamide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results	Based on the NITE GHS classification results

<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste from residues**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated container and contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

**ADR/RID**

UN number	UN2796
Proper shipping name:	Sulphuric acid
UN classification	8
Subsidiary hazard class	
Packing group	II
Marine pollutant	Not applicable

**IMDG**

UN number	UN2796
Proper shipping name:	Sulphuric acid
UN classification	8
Subsidiary hazard class	
Packing group	II
Marine pollutant (Sea)	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:	Sulphuric acid
UN classification	8
Subsidiary hazard class	
Packing group	II
Environmentally Hazardous Substance	Not applicable

## Section 15: REGULATORY INFORMATION

### International Inventories

EINECS/ELINCS	-
TSCA	-

### Japanese regulations

<b>Fire Service Act</b>	Not applicable
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	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.299,613 Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5) Group 3 Specified Chemical Substance Substances with Health Hazards Prevention Guideline(Carcinogenicity Substance) Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) Priority Assessment Chemical Substances (Law Article 2, Para.5)
<b>Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc</b>	
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Marine Pollution Prevention Law</b>	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
<b>Pollutant Release and Transfer Register Law (~2023.3.31)</b>	Class 1
<b>Class 1 - No.</b>	232
<b>Pollutant Release and Transfer Register Law (2023/4/1~)</b>	Class 1
<b>Class 1 - No.</b>	264
<b>Water Pollution Control Act</b>	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
<b>Air Pollution Control Law</b>	Hazardous Air Pollutants, Specified Substances

### Pollution Release and Transfer Registry (~2023.3.31)

Class	Chemical Name in Regulation	(Metal Name)	Ordinance Number	Content Rate
Specified Class 1	N,N-Dimethylformamide		232	<25

### Industrial Safety and Health Law (~2024.3.31)

Law Name	Chemical Name in Regulation	Ordinance Number	Weight %
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	N,N-Dimethylformamide	299	<25
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9, and Law Art.56-1)	Sulfuric acid	613	9.8

## Section 16: OTHER INFORMATION

### 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

**Disclaimer**

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2019). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**