

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 28-Sep-2022
 Revision Number 1.01

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Human/Mouse/Rat/Porcine/Canine TGF-beta 1 Quantikine ELISA Kit
Product Code	DB100C, WAKO : 550-41531

Manufacturer Supplier	R&D Systems 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
TGF-β1 Microplate	-	N/A	N/A	N/A	891124
TGF-β1 Standard	-	N/A	N/A	N/A	891126
TGF-β1 Conjugate	-	N/A	N/A	N/A	893003
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
Stop Solution	-	N/A	N/A	N/A	895174
Assay Diluent RD1-21	-	N/A	N/A	N/A	895215
Calibrator Diluent RD6-11	-	N/A	N/A	N/A	895489
Assay Diluent RD1-73	-	N/A	N/A	N/A	895541
Plate Sealers	-	N/A	N/A	N/A	N/A-RNDDDB100C

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 %

Substances Remarks: Assay Diluentは RD1-21かRD1-73のいずれかが入っています。

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 (CO₂), 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
N,N-Dimethylformamide 68-12-2	10ppm(30mg/m ³)(Skin)	ISHL/ACL: 10 ppm	TWA: 5 ppm Skin
Sulfuric Acid 7664-93-9	1mg/m ³	N/A	TWA 0.2mg/m ³

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 ₂), Nitrogen oxides (NO _x), Sulfur oxides (SO _x)

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

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	<i>EC50:Desmodesmus subspicatus</i> 500 mg/L 96 h	<i>LC50 : Oryzias latipes</i> > 100 mg/L 96 h	<i>EC50 : Daphnia magna</i> 6,800 - 13,900 mg/L 48 h
Sulfuric Acid	N/A	<i>LC50:Lepomis macrochirus</i> 16 - 28 mg/L 96 h	<i>LC50: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

Persistence and degradability	No information available
Bioaccumulative potential	No information available
Mobility in soil	No information available
Hazard to the ozone layer	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 Listed
TSCA Listed

Japanese regulations

Fire Service Act Not applicable

Poisonous and Deleterious Substances Control Law Not applicable

Industrial Safety and Health Act

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)

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

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

Pollutant Release and Transfer Register Law

(~2023.3.31)

Class 1 - No. 232

Pollutant Release and Transfer Register Law

(2023/4/1~)

Class 1 - No. 264

Water Pollution Control Act

Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)

Air Pollution Control Law

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