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Safety Data Sheet

【1】PRODUCT AND COMPANY INFORMATION

Product name	Egg (Ovalbumin) ELISA Kit Ⅱ Total Milk ELISA Kit Ⅱ Casein ELISA Kit Ⅱ Beta-lactoglobulin ELISA Kit Ⅱ Wheat/Gluten (Gliadin) ELISA Kit Ⅱ Peanut ELISA Kit Ⅱ Buckwheat ELISA Kit Ⅱ Soya ELISA Kit Ⅱ Hazelnut ELISA Kit Ⅱ High Sensitive Peanut ELISA Kit Ⅱ Sesame ELISA Kit Ⅱ Crustacean ELISA Kit Ⅱ Walnut ELISA Kit Ⅱ Almond ELISA Kit Ⅱ

Company name	Morinaga BioScience, Inc.
Address	2-1-1 Shimosueyoshi, Tsurumi-ku, Yokohama-shi, 230-8504, Japan
Section	Quality assurance department
Telephone	+81-45-586-2514
Fax	+81-45-586-2517
SDS No.	GHS-SF-11

【2】HAZARDS IDENTIFICATION

This kit contains hazardous and non-hazardous substances. Hazardous substances are described below.

(1) Sodium lauryl sulfate, water (component contained in: Reagent A (10X Concentrate))

Health hazards

Serious eye damage/eye irritation	: Category 2B
Specific target organ toxicity (single exposure)	: Category 3
Specific target organ toxicity (repeated exposure)	: Category 2

Environmental hazards

Hazardous to the aquatic environment (acute)	: Category 3

Pictogram or symbol

Signal word	: Danger
Hazard statements	: Causes eye irritation : May cause respiratory irritation : May cause kidney damage through long-term or repeated exposure : Harmful to aquatic life.
Precautionary statements	: Do not eat, drink, or smoke when using this product. : Wear appropriate protective gloves, protective clothing, protective eyewear, and protective mask. : Wash hands thoroughly after handling.
First aid	: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. : If on skin: Wash with plenty of water and soap.

: If on skin or hair: Immediately remove contaminated clothing.

Storage : Store sealed in a cool place away from direct sunlight.
: Keep locked up.

Disposal : Dispose of contents/container in accordance with laws and regulations.

(2) Sodium sulfite, water (component contained in: Reagent B (10X Concentrate))

Health hazards

Serious eye damage/eye irritation : Category 2B

Pictogram or symbol

Signal word : Warning

Hazard statements : Causes eye irritation

Precautionary statements : Do not eat, drink, or smoke when using this product.
: Wear appropriate protective gloves, protective clothing, protective eyewear, and protective mask.
: Wash hands thoroughly after handling.

First aid : If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage : Store sealed in a cool place away from direct sunlight.

Disposal : Dispose of contents/container in accordance with laws and regulations.

(3) Sulfuric acid (component contained in: Stop Solution (1N Sulfuric Acid))

Health hazards

Skin corrosion/irritation : Category 1A

Serious eye damage/eye irritation : Category 1

Specific target organ toxicity (single exposure) : Category 1

Specific target organ toxicity (repeated exposure) : Category 1

Environmental hazards

Hazardous to the aquatic environment (acute) : Category 2

Pictogram or symbol

Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage
: Causes serious eye damage
: Causes damage to the respiratory system
: Causes damage to the respiratory system through prolonged or repeated exposure

Precautionary statements : Do not breathe dust, mist, or vapor.
: Do not eat, drink, or smoke when using this product.
: Wear appropriate protective gloves, protective clothing, protective eyewear, and protective mask.
: Wash hands thoroughly after handling.

First aid : 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.
: If swallowed: Rinse mouth. Do not induce vomiting.
If swallowed, if on skin (or hair), if inhaled, or if in eyes: Immediately contact a physician.
If you feel unwell, seek medical attention.

Storage : Keep locked up.

Disposal : Dispose of contents/container in accordance with laws and regulations.

【3】COMPOSITION/INFORMATION ON INGREDIENTS

(1) Sodium lauryl sulfate, water

Substance/Mixture	:	Mixture
Chemical name or commercial name	:	Sodium n-dodecyl sulfate
Synonyms	:	Sodium lauryl sulfate
Ingredients and composition	:	Aqueous solution of sodium lauryl sulfate; concentration not disclosed
Formula	:	CH3(CH2)10CH2OSO3Na
CAS-No.	:	151-21-3
TSCA Inventory	:	Listed
EINECS		205-788-1

(2) Sodium sulfite, water

Substance/Mixture	:	Mixture
Chemical name or commercial name	:	Sodium sulfite
Ingredients and composition	:	Aqueous solution of sodium sulfite; concentration not disclosed
Formula	:	Na2SO3
CAS-No.	:	7757-83-7
TSCA Inventory	:	Listed
EINECS	:	231-821-4

(3) Sulfuric acid

Substance/Mixture	:	Mixture
Chemical name or commercial name	:	Sulfuric acid
Ingredients and composition	:	Aqueous solution of sulfuric acid, 0.5 mol/L (4.9%)
Formula	:	H2SO4
CAS-No.	:	7664-93-9
TSCA Inventory	:	Listed
EINECS	:	231-639-5
Dangerous and hazardous ingredients	:	Sulfuric acid

【4】FIRST AID MEASURES

(1) Sodium lauryl sulfate, water

(2) Sodium sulfite, water

Inhalation	:	Move victim to fresh air and rest in a position comfortable for breathing.
Skin contact	:	Wash the affected areas under running water.
Eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Ingestion	:	Rinse mouth. Do not induce vomiting. Get medical attention.

(3) Sulfuric acid

Inhalation	:	Remove the victim to fresh air, and keep him warm.
Skin contact	:	Wash the affected areas under running water.
Eye contact	:	Wash the affected areas under running water.
Ingestion	:	Rinse mouth. Do not induce vomiting. Seek immediate medical attention.
Anticipated acute and delayed symptoms	:	If sulfuric acid mist is inhaled, it may cause sore throat, cough, and shortness of breath.
	:	Skin contact may cause redness, pain, blisters, and burns.

【5】FIRE-FIGHTING MEASURES

Extinguishing media	:	This product is non-combustible.
Unsuitable extinguishing media	:	None
Particular fire fighting	:	If it can be done safely, move containers from the fire area; if not possible, apply water from a safe distance to cool and protect the surroundings.
Protection for firefighters	:	Wear appropriate self-contained breathing apparatus (SCBA) and chemical protective clothing.

【6】ACCIDENTAL RELEASE MEASURES

(1) Sodium lauryl sulfate, water

(2) Sodium sulfite, water

Cautions for personnel	:	Wear proper equipment and avoid contact with skin and inhalation of vapor.
Cautions for environmental	:	Prevent released material from entering waterways and sewers to avoid environmental damage.
	:	When diluting with copious water, do not discharge untreated wastewater that could cause environmental harm.
Removal measures	:	Absorb with inert material (e.g., dry sand, earth), place in a chemical waste container. Neutralize with soda ash or slaked lime, then flush with plenty of water.

(3) Sulfuric acid

Cautions for personnel	:	Wear proper equipment and avoid contact with skin and inhalation of vapor.
Cautions for environmental	:	Prevent released material from entering waterways and sewers to avoid environmental damage.
	:	When diluting with copious water, do not discharge untreated wastewater that could cause environmental harm.
Removal measures	:	Absorb with inert material (e.g., dry sand, earth), place in a chemical waste container. Neutralize with soda ash or slaked lime, then flush with plenty of water.
Prevention of second accident	:	Do not allow contact with organic substances or combustible

【7】HANDLING AND STORAGE

Handling

Engineering measures	:	Wear appropriate protective equipment to avoid skin contact.
	:	Handle to avoid generating aerosols or vapors.
Precautions for safe handling	:	Use with an enclosed system or local exhaust ventilation.

Storage

Suitable storage conditions	:	Store tightly closed in a cool, dark place.
Suitable container materials	:	Glass, polyethylene, polypropylene

【8】EXPOSURE CONTROL/PERSONAL PROTECTION

(1) Sodium lauryl sulfate, water

(2) Sodium sulfite, water

Engineering measures	:	Use only with adequate ventilation and in closed systems.
Control parameters		
ACGIH (2009)	:	Not applicable
Protective equipment		
Respiratory protection	:	Not required under normal conditions of use.
Hands protective equipment	:	Impervious protective gloves
Eyes protective equipment	:	Safety goggles

(3) Sulfuric acid

Engineering measures	:	Use only with adequate ventilation and in closed systems.
Control parameters		
ACGIH(2009)	:	0.2 mg/m³ (TLV-TWA)
Protective equipment		
Respiratory protection	:	If necessary, wear a chemical cartridge respirator with acid gas cartridges.
Hands protective equipment	:	Impervious protective gloves
Eyes protective equipment	:	Safety goggles

【9】PHYSICAL AND CHEMICAL PROPERTIES

(1) Sodium lauryl sulfate, water

Appearance	:	Liquid
Color	:	Colorless

Odor	:	Slight characteristic odor
pH	:	7.5–9.0
Boiling point	:	Not available
Melting point	:	Not available
Flash point	:	Non-combustible
Specific gravity	:	Approx. 1.0 g/mL
Solubility	:	Water: Freely soluble

(2) Sodium sulfite, water

Appearance	:	Liquid
Color	:	Colorless
Odor	:	Odorless
pH	:	9.0-11.0
Boiling point	:	Not available
Melting point	:	Not available
Flash point	:	Non-combustible
Specific gravity	:	Approx. 1.1 g/mL
Solubility	:	Water: Freely soluble

(3) Sulfuric acid

Appearance	:	Liquid
Color	:	Colorless
Odor	:	Odorless
pH	:	0.3
Boiling point	:	Approx. 100℃
Melting point	:	Approx. -2℃
Flash point	:	Non-combustible
Vapor density	:	Not applicable for aqueous solution
Specific gravity	:	1.03 g/mL (20°C)
Solubility	:	Water: Freely soluble

【10】STABILITY AND REACTIVITY

(1) Sodium lauryl sulfate, water

Stability	:	Stable under normal usage
Reactivity	:	May react with strong oxidizing substances.
Incompatible conditions	:	Light, heat
Incompatible materials	:	Oxidizing substances
Hazardous decomposition	:	Toxic fumes of sulfur oxides (SOx), carbon monoxide

(2) Sodium sulfite, water

Stability	:	Stable under normal usage
Reactivity	:	Oxidizes gradually in air
Incompatible conditions	:	Light, heat
Incompatible materials	:	Oxidizing substances
Hazardous decomposition	:	Sulfur oxides

(3) Sulfuric acid

Stability	:	Stable under normal usage
Reactivity	:	May react with alkaline substances.
Incompatible conditions	:	Light, heat
Incompatible materials	:	Alkaline substances, many metals, strong oxidizers
Hazardous decomposition	:	Sulfur oxides(SOx)

【11】TOXICOLOGICAL INFORMATION

(1) Sodium lauryl sulfate, water

Acute toxicity, Oral	:	Not classified
Acute toxicity, Dermal	:	Not classified
Inhalation (gas)	:	Not classifiable due to insufficient data
Inhalation (dust, mist)	:	Not classifiable due to insufficient data
	:	If swallowed, may cause nausea, vomiting, abdominal pain. Rat oral LD50=1290mg/kg (as sodium lauryl sulfate) Rat intraperitoneal LD50=210mg/kg (as sodium lauryl sulfate)

Skin corrosiveness : Not classified
Irritation to skin, eyes : Causes serious eyes irritation(Category 2B).
Since cause moderate irritation to the eyes of rabbit, it was classified into category 2B.
Respiratory sensitization or skin sensitization
Respiratory sensitization : Not classifiable due to insufficient data
Skin sensitization : Not classifiable due to insufficient data
Mutagenicity : Not classified
Carcinogenic effects : Not classifiable due to insufficient data
Reproductive toxicity : Not classifiable due to insufficient data
Specific target organ systemic toxicity(Single exposure)
: Respiratory tract irritation (Category 3).
Based on descriptions that respiratory tract irritation is seen by aerosol exposure in mouse, a rabbit, and guinea pig and that respiratory tract irritation is seen by short terms exposure, it was classified into category 3.
Specific target organ systemic toxicity(repeated exposure)
: May cause damage to organs(kidney) through prolonged or repeated exposure(category 2)
It has been reported that there were vacuolar degeneration of kidney tubular epithelial cells, and atrophic of kidney glomerulus. Since these symptoms were found within the scope of the guidance value of Category2, it was classified into category 2(kidney).
Aspiration hazard : Not possible to classify because of insufficient data

(2) Sodium sulfite, water
Acute toxicity, Oral : Not classified
Acute toxicity, Dermal : Not classifiable due to insufficient data
Inhalation (gas) : Not classifiable due to insufficient data
Inhalation (dust, mist) : Not classifiable due to insufficient data
(as Sodium sulfite)
Rat oral LD50=3560mg/kg
Skin corrosiveness : Not classified
Irritation to skin, eyes : Causes serious eye irritation (Category 2B).
Since cause moderate irritation to the eyes of rabbit, it was classified into category 2B.
Respiratory sensitization or skin sensitization
Respiratory sensitization : Not classifiable due to insufficient data
Skin sensitization : Not classifiable due to insufficient data
Mutagenicity : Not classified
Carcinogenic effects : Not classifiable due to insufficient data
Effects on the reproductive system : Not classifiable due to insufficient data
Specific target organ systemic toxicity(Single exposure)
: Not classifiable due to insufficient data
Sulfite salt is oxidized and is converted to sulfate ion inside bodies, but digestive organs are irritated because of isolated sulfite ion. If human swallowed 4g of the substance, they have poisoning digestive organs.However,it is not possible to classify because of insufficient data.
Specific target organ systemic toxicity(repeated exposure)
: Not classifiable due to insufficient data
Aspiration hazard : Not classifiable due to insufficient data

(3) Sulfuric acid
Acute toxicity, Oral : Not classified
Acute toxicity, Dermal : Not classifiable due to insufficient data
Inhalation (vapor) : Not classifiable due to insufficient data
Inhalation (dust, mist) : Not classified
Rat oral LD50=44580mg/kg (as calculated value)
Rat inhalation LC50 = 7,230 ppm (4 h)(as calculated value)
Skin corrosiveness : Causes severe skin burns. (Category1A)
Irritation to skin, eyes : Causes serious eye damage. (Category1)

In case of human accident of sulfuric acid, severe eye damage with lysed anterior chamber of the eyes was recognized. 5% solutions caused mild irritation or rabbit eyes, and 10% solutions caused severe irritation on rabbit eyes.

Respiratory sensitization or skin sensitization

Respiratory sensitization : Not classifiable due to insufficient data

Skin sensitization : Not classified
Sulfuric acid has no human skin sensitization.

Mutagenicity : Not classifiable due to insufficient data
In vitro studies regarding both germ cells and somatic cells have no data, in vitro mutagenicity, the single index of chromosomal abnormality test is positive, but other indexes are negative, so the classification is impossible due to insufficient data.

Carcinogenic effects : Not classifiable due to insufficient data

Reproductive toxicity : Not classified
Inhalation studies of sulfuric acid of sulfuric acid of rabbits and mice during the period of embryo organogenesis, the dose that does not recognized toxicity on dams appears no embryo toxicity and tetraagenicity on both species. As the main toxicity is direct irritation and corrosion on the local tissue, there is no concern of reproductive toxicity.

Specific target organ systemic toxicity(Single exposure)
: Cause damage to organs (respiratory organs) (category 1)
In inhalation studies of sulfuric acid of human in the low concentration, irritation symptoms of respiratory tract like cough, shortness of breath are recognized. In the high concentration, acute effects like cough, shortness of breath, bloodstained sputum evacuation and continuing effects like decreased function of lungs, emphysema are recognized. In inhalation studies of guinea pig for eight hours, lung bleeding and dysfunction are recognized.

Specific target organ systemic toxicity(repeated exposure)
: Cause damage to organs (respiratory organs) through prolonged or repeated exposure. (category 1)
In inhalation studies of sulfuric acid of rats for 28 days, at the guidance concentration range of category 1, cell growth on pharyngeal mucosa is recognized. In repeated inhalation studies of guinea pig, in the same concentration, respiratory tract and lung disorder are recognized. in inhalation, studies of cynomolgus monkeys for 78 weeks, at the guidance concentration range of category 1, histological alteration like hyperplastic cell on bronchiole, thickened lung wall are recognized.

Aspiration hazard : Not classifiable due to insufficient data

【12】ECOLOGICAL INFORMATION

(1) Sodium lauryl sulfate, water

Ecotoxicity

Aquatic toxicity

Acute aquatic toxicity : Category 3 American lobster LC50 = 0.72 mg/L (96 h).

Chronic aquatic toxicity : Not possible to classify because of insufficient data

(2) Sodium sulfite, water

Ecotoxicity

Aquatic toxicity

Acute aquatic toxicity : Not possible to classify because of insufficient data

Chronic aquatic toxicity : Not possible to classify because of insufficient data

(3) Sulfuric acid

Ecotoxicity

Aquatic toxicity

Acute aquatic toxicity	:	Not possible to classify because of insufficient data
Chronic aquatic toxicity	:	Category 2

【13】DISPOSAL CONSIDERATIONS

(1) Sodium lauryl sulfate, water

(2) Sodium sulfite, water

Residual disposal	:	Dilute with copious water and adjust the pH of the solution. After that, discharge to drains.
	:	Or entrust approved waste disposal companies with the disposal.
Containers	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

(3) Sulfuric acid

Residual disposal	:	Add the chemical gradually in alkaline water solution like calcium hydroxide, sodium carbonate to neutralize and flush in a drain with a large amount of water.
	:	Or entrust approved waste disposal companies with the disposal.
Containers	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

【14】TRANSPORT INFORMATION

UN class	:	Not applicable
UN number	:	Not applicable

【15】REGULATORY INFORMATION

Ensure compliance with applicable federal requirements and conformity to local regulations.

【16】OTHER INFORMATION

References	:	Dictionary of Organic Compounds (1985)
	:	Great Dictionary of Science (1964)
	:	NITE Chemical Substance Information Platform
	:	CSCL Database
	:	Compendium of Laws and Regulations on Chemical Substances, Revised 4th Edition (2004)