

## MATERIAL SAFETY DATA SHEET

Created Date: 04/13/2005

## Section 1 - Product and Company Information

Product name	Insect Cell Extract
Company name	Shimadzu Corporation
Department	Life Science Laboratory
Address	1, Nishinkyō-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511 Japan
Technical phone	+ 81-75-823-1351
Fax	+ 81-75-823-1364
Reference number	TDIC-MSDS-1

## Section 2 - Composition/Information on Ingredient

Identification of substance	Mixture
Components and concentration	Water >85%, Glycerol 5%, HEPES 1%, Potassium acetate 1%, etc.

## Section 3 - Hazards Identification

Emergency overview	Caution: Avoid contact and inhalation.
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For additional information on toxicity, please refer to section 11.

## Section 4 - First Aid Measures

## Oral exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## Inhalation exposure

If inhaled, blow the nose, and gargle, then remove to fresh air, and rest. Call a physician.

## Dermal exposure

In case of contact, immediately wash skin with copious amounts of water. If clothes are contaminated, remove them. Call a physician.

## Eye exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Call a physician.

## Section 5 - Fire Fighting Measures

Flash point	N/A
Autoignition temp	N/A
Flammability	N/A
Extinguishing media	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

## Firefighting

In the case of surrounding fire, move the container to a safety space. If the container cannot be moved, cool the surroundings with water.

## Section 6 - Accidental Release Measures

## Procedure(s) of personal precaution(s)

Wear protective equipment.

## Methods for cleaning up

Recover as much as possible into an empty container, and wash the remainder with water.

## Section 7 - Handling and Storage

Handling	Make sure that it does not contact the eyes or skin.
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Storage	Store at - 80 .
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## Section 8 - Exposure Controls/Personal Protective Equipment

Engineering controls	Provide equipment for washing eyes.
Personal protective equipment	Wear chemical-resistant gloves, safety goggles, and protective clothing.
General hygiene measures	Wash thoroughly after handling.

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Section 9 - Physical/Chemical Properties

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Appearance	Color: Colorless	
	Form: Liquid	
Property	Value	At temperature or pressure
Molecular weight	N/A	
PH	N/A	
BP/BP range	N/A	
MP/MP range	N/A	
Freezing point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated vapor conc.	N/A	
SG/density	N/A	
Bulk density	N/A	
Odor threshold	N/A	
Volatile%	N/A	
VOC content	N/A	
Water content	N/A	
Solvent content	N/A	
Evaporation rate	N/A	
Viscosity	N/A	
Surface tension	N/A	
Partition coefficient	N/A	
Decomposition temp.	N/A	
Flash point	N/A	
Explosion limits	N/A	
Flammability	N/A	
Autoignition temp	N/A	
Refractive index	N/A	
Optical rotation	N/A	
Miscellaneous data	N/A	
Solubility	N/A	

N/A = not available

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Section 10 - Stability and Reactivity

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## Stability

Stable: Stable.

## Hazardous decomposition products

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

## Hazardous polymerization

Hazardous polymerization: Will not occur.

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Section 11 - Toxicological Information

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## Route of exposure

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: May causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

## Sensitization

Sensitization: Will not occur.

## Additional toxicological information

To our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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Section 12 - Ecological Information

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No data available

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Section 13 - Disposal Considerations

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Appropriate method of disposal of substance or preparation

After autoclaving, dispose together with excess water.

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Section 14 - Transport Information

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Transport precautions

Prevent damage to the container due to falling over or being dropped.

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Section 15 - Regulatory Information

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Applicable laws and regulations

Fire Protection Law: Type 4 dangerous substance, type 3 petroleum product (Glycerol)

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Section 16 - Other Information

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References

Sigma-Aldrich Material Safety Data Sheets, Merck Material Safety Data Sheets, etc.

Please inform operators of the contents of this data sheet, by providing it in the work place.

- The hazard and toxicity evaluation has not necessarily been sufficient, so handle with sufficient care.
- The values for concentration and physical and chemical properties are not guaranteed.
- The cautions and other information apply to normal handling only.

Department issuing MSDS

Life Science Laboratory, Shimadzu Corporation

Tel. +81-75-823-1351, Fax +81-75-823-1364



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**Section 9 - Physical/Chemical Properties**

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Appearance	Color: Colorless	
	Form: Liquid	
Property	Value	At temperature or pressure
Molecular weight	N/A	
PH	N/A	
BP/BP range	N/A	
MP/MP range	N/A	
Freezing point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated vapor conc.	N/A	
SG/density	N/A	
Bulk density	N/A	
Odor threshold	N/A	
Volatile%	N/A	
VOC content	N/A	
Water content	N/A	
Solvent content	N/A	
Evaporation rate	N/A	
Viscosity	N/A	
Surface tension	N/A	
Partition coefficient	N/A	
Decomposition temp.	N/A	
Flash point	N/A	
Explosion limits	N/A	
Flammability	N/A	
Autoignition temp	N/A	
Refractive index	N/A	
Optical rotation	N/A	
Miscellaneous data	N/A	
Solubility	N/A	

N/A = not available

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**Section 10 - Stability and Reactivity**

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**Stability**

Stable: Stable.

**Hazardous decomposition products**

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

**Hazardous polymerization**

Hazardous polymerization: Will not occur.

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**Section 11 - Toxicological Information**

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**Route of exposure**

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: May causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

**Sensitization**

Sensitization: Will not occur.

**Additional toxicological information**

To our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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Section 12 - Ecological Information

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No data available

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Section 13 - Disposal Considerations

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Appropriate method of disposal of substance or preparation

After autoclaving, dispose together with excess water.

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Section 14 - Transport Information

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Transport precautions

Prevent damage to the container due to falling over or being dropped.

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Section 15 - Regulatory Information

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Applicable laws and regulations

None

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Section 16 - Other Information

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References

Sigma-Aldrich Material Safety Data Sheets, Merck Material Safety Data Sheets, etc.

Please inform operators of the contents of this data sheet, by providing it in the work place.

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- The values for concentration and physical and chemical properties are not guaranteed.
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## MATERIAL SAFETY DATA SHEET

Created Date: 04/13/2005

## Section 1 - Product and Company Information

Product name	4mM Methionine
Company name	Shimadzu Corporation
Department	Life Science Laboratory
Address	1, Nishinkyō-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511 Japan
Technical phone	+ 81-75-823-1351
Fax	+ 81-75-823-1364
Reference number	TDIC-MSDS-3

## Section 2 - Composition/Information on Ingredient

Identification of substance	Mixture
Components and concentration	Water 99.4%, L-Methionine 0.06%

## Section 3 - Hazards Identification

Emergency overview	Caution: Avoid contact and inhalation.
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For additional information on toxicity, please refer to section 11.

## Section 4 - First Aid Measures

## Oral exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## Inhalation exposure

If inhaled, blow the nose, and gargle, then remove to fresh air, and rest. Call a physician.

## Dermal exposure

In case of contact, immediately wash skin with copious amounts of water. If clothes are contaminated, remove them. Call a physician.

## Eye exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Call a physician.

## Section 5 - Fire Fighting Measures

Flash point	N/A
Autoignition temp	N/A
Flammability	N/A
Extinguishing media	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

## Firefighting

In the case of surrounding fire, move the container to a safety space. If the container cannot be moved, cool the surroundings with water.

## Section 6 - Accidental Release Measures

## Procedure(s) of personal precaution(s)

Wear protective equipment.

## Methods for cleaning up

Recover as much as possible into an empty container, and wash the remainder with water.

## Section 7 - Handling and Storage

Handling	Make sure that it does not contact the eyes or skin.
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Storage	Store at - 20 .
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## Section 8 - Exposure Controls/Personal Protective Equipment

Engineering controls	Provide equipment for washing eyes.
Personal protective equipment	Wear chemical-resistant gloves, safety goggles, and protective clothing.
General hygiene measures	Wash thoroughly after handling.

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**Section 9 - Physical/Chemical Properties**

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Appearance	Color: Colorless	
	Form: Liquid	
Property	Value	At temperature or pressure
Molecular weight	N/A	
PH	N/A	
BP/BP range	N/A	
MP/MP range	N/A	
Freezing point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated vapor conc.	N/A	
SG/density	N/A	
Bulk density	N/A	
Odor threshold	N/A	
Volatile%	N/A	
VOC content	N/A	
Water content	N/A	
Solvent content	N/A	
Evaporation rate	N/A	
Viscosity	N/A	
Surface tension	N/A	
Partition coefficient	N/A	
Decomposition temp.	N/A	
Flash point	N/A	
Explosion limits	N/A	
Flammability	N/A	
Autoignition temp	N/A	
Refractive index	N/A	
Optical rotation	N/A	
Miscellaneous data	N/A	
Solubility	N/A	

N/A = not available

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**Section 10 - Stability and Reactivity**

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**Stability**

Stable: Stable.

**Hazardous decomposition products**

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

**Hazardous polymerization**

Hazardous polymerization: Will not occur.

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**Section 11 - Toxicological Information**

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**Route of exposure**

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: May causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

**Sensitization**

Sensitization: Will not occur.

**Additional toxicological information**

To our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.



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Section 12 - Ecological Information

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No data available

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Section 13 - Disposal Considerations

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Appropriate method of disposal of substance or preparation  
Dispose together with excess water.

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Section 14 - Transport Information

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Transport precautions  
Prevent damage to the container due to falling over or being dropped.

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Section 15 - Regulatory Information

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Applicable laws and regulations  
None

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Section 16 - Other Information

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References

Sigma-Aldrich Material Safety Data Sheets, Merck Material Safety Data Sheets, etc.

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- The values for concentration and physical and chemical properties are not guaranteed.
- The cautions and other information apply to normal handling only.

Department issuing MSDS

Life Science Laboratory, Shimadzu Corporation  
Tel. +81-75-823-1351, Fax +81-75-823-1364

## MATERIAL SAFETY DATA SHEET

Date Created: 04/13/2005

## Section 1 - Product and Company Information

Product name	0.5 µg/µL pTD1 Vector
Company name	Shimadzu Corporation
Division	Life Science Laboratory
Address	1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511 JAPAN
Technical phone	+ 81-75-823-1351
Fax	+ 81-75-823-1364
Reference number	TDIC-MSDS-4

## Section 2 - Composition/Information on Ingredient

Identification of substance	Mixture
Components and concentration	Water >98%, Tris 0.12%, Ethylenediamine tetraacetic acid (EDTA) 0.03%, etc.

The single substance information of ethylenediamine tetraacetic acid (EDTA) is shown below.

Substance name	Ethylenediaminetetraacetic acid
Formula	C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>8</sub>
Synonyms	Ethylenediamine-N,N,N',N'-tetraacetic acid EDTA
CAS No.	60-00-4
Government official serial No.	2-1263

## Section 3 - Hazards Identification (EDTA)

Emergency overview	Irritant. Irritating to eyes, respiratory system and skin.
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For additional information on toxicity, please refer to section 11.

## Section 4 - First Aid Measures (EDTA)

Oral exposure  
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation exposure  
If inhaled, remove to fresh air. If not breathing gives artificial respiration. If breathing is difficult, give oxygen.

Dermal exposure  
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye exposure  
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

## Section 5 - Fire Fighting Measures (EDTA)

Flash point	N/A
Autoignition temp	N/A
Flammability	N/A
Extinguishing media	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting  
Protective equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific hazard(s): Emits toxic fumes under fire conditions.

## Section 6 - Accidental Release Measures (EDTA)

Procedure(s) of personal precaution(s)  
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for cleaning up  
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after

material pickup is complete.

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#### Section 7 - Handling and Storage

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Handling Make sure that it does not contact the eyes or skin.  
 Storage Store at - 20 .

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#### Section 8 - Exposure Controls/Personal Protective Equipment (EDTA)

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Engineering controls Safety shower and eye bath. Mechanical exhaust required.  
 Personal protective equipment Respiratory: Government approved respirator.  
 Hand: Compatible chemical -resistant gloves.  
 Eye: Chemical safety goggles.  
 General hygiene measures Wash thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties (EDTA)

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Appearance Color: White (0.5 µg/µL pTD1 Vector: Colorless)  
 Form: Powder (0.5 µg/µL pTD1 Vector: Liquid)

Property	Value	At temperature or pressure
Molecular weight	292.24	
PH	2.5	23 , Concentration: 10g/l
BP/BP range	N/A	
MP/MP range	250	
Freezing point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated vapor conc.	N/A	
SG/density	N/A	
Bulk density	N/A	
Odor threshold	N/A	
Volatile%	N/A	
VOC content	N/A	
Water content	N/A	
Solvent content	N/A	
Evaporation rate	N/A	
Viscosity	N/A	
Surface tension	N/A	
Partition coefficient	Log Kow: -3.34	
Decomposition temp.	N/A	
Flash point	N/A	
Explosion limits	N/A	
Flammability	N/A	
Autoignition temp	N/A	
Refractive index	N/A	
Optical rotation	N/A	
Miscellaneous data	N/A	
Solubility	Solvent: 0.1M in NaOH 1M, 20	complete, colorless

N/A = not available

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#### Section 10 - Stability and Reactivity (EDTA)

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##### Stability

Stable: Stable.

Materials to avoid: Strong oxidizing agents.

##### Hazardous decomposition products

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

## Hazardous polymerization

Hazardous polymerization: Will not occur

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Section 11 - Toxicological Information (EDTA)

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## Route of exposure

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: Causes eye irritation.

Inhalation: May be harmful inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

## Sensitization

Sensitization: Will not occur.

## Signs and symptoms of exposure

To our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Toxicity data

Oral, Rat

LD50=4000mg/kg

Intraperitoneal, Rat

LD50=397mg/kg

Remarks: Behavioral: Convulsions or effect on seizure threshold.

Oral, Mouse

LD50=30mg/kg

Intraperitoneal, Mouse

LD50=250mg/kg

Intravenous, Mouse

LD50=28.5mg/kg

## Irritation data

Skin, Rabbit

Remarks: No irritation effect

Eyes, Rabbit

Remarks: Moderate irritation effect

## Chronic exposure - Teratogen

Species: Rat

Dose: 7632mg/kg

Route of application: Oral

Exposure time: (7-14D PREG)

Result: Specific developmental abnormalities: Eye, ear. Specific developmental abnormalities: Craniofacial (including nose and tongue). Specific developmental abnormalities: Musculoskeletal system.

Species: Rat

Dose: 7632mg/kg

Route of application: Oral

Exposure time: (7-14D PREG)

Result: Specific developmental abnormalities: Cardiovascular (circulatory) system.

Specific developmental abnormalities: Respiratory system. Specific developmental abnormalities: Urogenital system.

## Chronic exposure - Mutagen

Species: Rat

Dose: 0.6mmol/l

Cell type: Other cell types

Mutation test: DNA inhibition

Species: Mouse           Route: Intraperitoneal  
Does: 186mg/kg  
Mutation test: Micronucleus test

Species: Mouse           Route: Oral  
Does: 15mg/kg  
Mutation test: Micronucleus test

Species: Mouse  
Does: 40.5mmol/l  
Cell type: Lymphocyte  
Mutation test: DNA damage

Species: Mouse           Route: Intraperitoneal  
Does: 50mmol/l  
Mutation test: Cytogenetic analysis

Species: Mouse  
Does: 25.2mmol/l  
Cell type: Lymphocyte  
Mutation test: Mutation in mammalian somatic cells

Species: Hamster  
Does: 0.1mmol/l  
Cell type: Embryo  
Mutation test: Unscheduled DNA synthesis

Species: Hamster  
Does: 0.5mg/l  
Cell type: Fibroblast  
Mutation test: DNA inhibition

Species: Hamster  
Does: 0.03mmol/l  
Cell type: Embryo  
Mutation test: Sister chromatid exchange

Species: Hamster  
Does: 0.25mmol/l  
Cell type: Kidney  
Mutation test: DNA inhibition

Chronic exposure - Reproductive hazard

Species: Rat  
Does: 7632mg/kg  
Route of application: Oral  
Exposure time: (7 -14D PREG)  
Result: Effects on fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Effects on embryo or fetus: fetotoxicity (except death, e.g., stunted fetus).

Species: Rat  
Does: 3g/kg  
Route of application: Subcutaneous  
Exposure time: (7 -14D PREG)  
Result: Effects on fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on embryo or fetus: Fetotoxicity (except death, e.g., stunted fetus).

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#### Section 12 - Ecological Information (EDTA)

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##### Acute ecotoxicity tests

Test type: EC50 Daphnia

Species: Daphnia magna

Time: 48h

Value: 113mg/l

Test type: LC50 Fish

Species: Lepomis macrochirus (Bluegill)

Time: 96h

Value: 34.62mg/l

Test type: LC50 Fish

Species: Pimephales promelas (Fathead minnow)

Time: 96h

Value: 44.2-76.5mg/l

##### Additional results/data from relevant scientific experiments

May be harmful to aquatic organisms due to the shift of the pH. Avoid contamination of the environment.

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#### Section 13 - Disposal Considerations (EDTA)

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##### Appropriate method of disposal of substance or preparation

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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#### Section 14 - Transport Information

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##### Transport precautions

Prevent damage to the container due to falling over or being dropped.

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#### Section 15 - Regulatory Information (EDTA)

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##### Applicable laws and regulations

TSCA Registered

EINECS 2004494

PRTR 1-47

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#### Section 16 - Other Information

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##### References

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##### Department issuing MSDS

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## MATERIAL SAFETY DATA SHEET

Date Created: 04/13/2005

## Section 1 - Product and Company Information

Product name	0.5 µg/µL Control DNA
Company name	Shimadzu Corporation
Division	Life Science Laboratory
Address	1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511 JAPAN
Technical phone	+ 81-75-823-1351
Fax	+ 81-75-823-1364
Reference number	TDIC-MSDS-5

## Section 2 - Composition/Information on Ingredient

Identification of substance	Mixture
Components and concentration	Water >98%, Tris 0.12%, Ethylenediaminetetraacetic acid (EDTA) 0.03%, etc.

The single substance information of ethylenediaminetetraacetic acid (EDTA) is shown below.

Substance name	Ethylenediaminetetraacetic acid
Formula	C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>8</sub>
Synonyms	Ethylenediamine-N,N,N',N'-tetraacetic acid EDTA
CAS No.	60-00-4
Government official serial No.	2-1263

## Section 3 - Hazards Identification (EDTA)

Emergency overview	Irritant. Irritating to eyes, respiratory system and skin.
--------------------	--

For additional information on toxicity, please refer to section 11.

## Section 4 - First Aid Measures (EDTA)

## Oral exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## Inhalation exposure

If inhaled, remove to fresh air. If not breathing gives artificial respiration. If breathing is difficult, give oxygen.

## Dermal exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

## Eye exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

## Section 5 - Fire Fighting Measures (EDTA)

Flash point	N/A
Autoignition temp	N/A
Flammability	N/A
Extinguishing media	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

## Firefighting

Protective equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific hazard(s): Emits toxic fumes under fire conditions.

## Section 6 - Accidental Release Measures (EDTA)

## Procedure(s) of personal precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

## Methods for cleaning up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after

material pickup is complete.

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#### Section 7 - Handling and Storage

---

Handling Make sure that it does not contact the eyes or skin.  
 Storage Store at - 20 .

---

#### Section 8 - Exposure Controls/Personal Protective Equipment (EDTA)

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Engineering controls Safety shower and eye bath. Mechanical exhaust required.  
 Personal protective equipment Respiratory: Government approved respirator.  
 Hand: Compatible chemical -resistant gloves.  
 Eye: Chemical safety goggles.  
 General hygiene measures Wash thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties (EDTA)

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Appearance Color: White (0.5 µg/µ L Control DNA: Colorless)  
 Form: Powder (0.5 µg/µ L Control DNA: Liquid)

Property	Value	At temperature or pressure
Molecular weight	292.24	
PH	2.5	23 , Concentration: 10g/l
BP/BP range	N/A	
MP/MP range	250	
Freezing point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated vapor conc.	N/A	
SG/density	N/A	
Bulk density	N/A	
Odor threshold	N/A	
Volatile%	N/A	
VOC content	N/A	
Water content	N/A	
Solvent content	N/A	
Evaporation rate	N/A	
Viscosity	N/A	
Surface tension	N/A	
Partition coefficient	Log Kow: -3.34	
Decomposition temp.	N/A	
Flash point	N/A	
Explosion limits	N/A	
Flammability	N/A	
Autoignition temp	N/A	
Refractive index	N/A	
Optical rotation	N/A	
Miscellaneous data	N/A	
Solubility	Solvent: 0.1M in NaOH 1M, 20	complete, colorless

N/A = not available

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#### Section 10 - Stability and Reactivity (EDTA)

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##### Stability

Stable: Stable.

Materials to avoid: Strong oxidizing agents.

##### Hazardous decomposition products

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.



## Hazardous polymerization

Hazardous polymerization: Will not occur

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Section 11 - Toxicological Information (EDTA)

---

## Route of exposure

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: Causes eye irritation.

Inhalation: May be harmful inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

## Sensitization

Sensitization: Will not occur.

## Signs and symptoms of exposure

To our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Toxicity data

Oral, Rat

LD50=4000mg/kg

Intraperitoneal, Rat

LD50=397mg/kg

Remarks: Behavioral: Convulsions or effect on seizure threshold.

Oral, Mouse

LD50=30mg/kg

Intraperitoneal, Mouse

LD50=250mg/kg

Intravenous, Mouse

LD50=28.5mg/kg

## Irritation data

Skin, Rabbit

Remarks: No irritation effect

Eyes, Rabbit

Remarks: Moderate irritation effect

## Chronic exposure - Teratogen

Species: Rat

Dose: 7632mg/kg

Route of application: Oral

Exposure time: (7-14D PREG)

Result: Specific developmental abnormalities: Eye, ear. Specific developmental abnormalities: Craniofacial (including nose and tongue). Specific developmental abnormalities: Musculoskeletal system.

Species: Rat

Dose: 7632mg/kg

Route of application: Oral

Exposure time: (7-14D PREG)

Result: Specific developmental abnormalities: Cardiovascular (circulatory) system.

Specific developmental abnormalities: Respiratory system. Specific developmental abnormalities: Urogenital system.

## Chronic exposure - Mutagen

Species: Rat

Dose: 0.6mmol/l

Cell type: Other cell types

Mutation test: DNA inhibition

Species: Mouse                   Route: Intraperitoneal  
Does: 186mg/kg  
Mutation test: Micronucleus test

Species: Mouse                   Route: Oral  
Does: 15mg/kg  
Mutation test: Micronucleus test

Species: Mouse  
Does: 40.5mmol/l  
Cell type: Lymphocyte  
Mutation test: DNA damage

Species: Mouse                   Route: Intraperitoneal  
Does: 50mmol/l  
Mutation test: Cytogenetic analysis

Species: Mouse  
Does: 25.2mmol/l  
Cell type: Lymphocyte  
Mutation test: Mutation in mammalian somatic cells

Species: Hamster  
Does: 0.1mmol/l  
Cell type: Embryo  
Mutation test: Unscheduled DNA synthesis

Species: Hamster  
Does: 0.5mg/l  
Cell type: Fibroblast  
Mutation test: DNA inhibition

Species: Hamster  
Does: 0.03mmol/l  
Cell type: Embryo  
Mutation test: Sister chromatid exchange

Species: Hamster  
Does: 0.25mmol/l  
Cell type: Kidney  
Mutation test: DNA inhibition

Chronic exposure - Reproductive hazard

Species: Rat  
Does: 7632mg/kg  
Route of application: Oral  
Exposure time: (7 -14D PREG)  
Result: Effects on fertility: Post -implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Effects on embryo or fetus: fetotoxicity (except death, e.g., stunted fetus).

Species: Rat  
Does: 3g/kg  
Route of application: Subcutaneous  
Exposure time: (7 -14D PREG)  
Result: Effects on fertility: Post -implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on embryo or fetus: Fetotoxicity (except death, e.g., stunted fetus).

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**Section 12 - Ecological Information (EDTA)**

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**Acute ecotoxicity tests**

Test type: EC50 Daphnia

Species: Daphnia magna

Time: 48h

Value: 113mg/l

Test type: LC50 Fish

Species: Lepomis macrochirus (Bluegill)

Time: 96h

Value: 34.62mg/l

Test type: LC50 Fish

Species: Pimephales promelas (Fathead minnow)

Time: 96h

Value: 44.2-76.5mg/l

**Additional results/data from relevant scientific experiments**

May be harmful to aquatic organisms due to the shift of the pH. Avoid contamination of the environment.

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**Section 13 - Disposal Considerations (EDTA)**

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**Appropriate method of disposal of substance or preparation**

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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**Section 14 - Transport Information**

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**Transport precautions**

Prevent damage to the container due to falling over or being dropped.

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**Section 15 - Regulatory Information (EDTA)**

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**Applicable laws and regulations**

TSCA Registered

EINECS 2004494

PRTR 1-47

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**Section 16 - Other Information**

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**References**

Sigma-Aldrich Material Safety Data Sheets, Merck Material Safety Data Sheets, etc.

Please inform operators of the contents of this data sheet, by providing it in the work place.

- The hazard and toxicity evaluation has not necessarily been sufficient, so handle with sufficient care.
- The values for concentration and physical and chemical properties are not guaranteed.
- The cautions and other information apply to normal handling only.

**Department issuing MSDS**

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