

MATERIAL SAFETY DATA SHEET MSDS No.2009073

IDENTITY:KK073 Urinary diacetylspermine ELISA Kit

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER'S NAME : TRANS GENIC INC.

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DATA PREPARED : Nov. 17, 2009

2. COMPOSITION / INFORMATION ON INGREDIENTS

	CHEMICAL NAME	CAS NUMBER	CONTENT
[1]Antigen coated Microtiter plate	DiAcSpm liked antigen	-	-
[2]The standard	DiAcSpm ^①	-	-
[3]Antibody diluent	Geratine	-	0.05%
	Tween-20	-	0.05%
	Disodium phosphate ^②	7558-79-4	0.12%
	Sodium dihydrogen phosphate ^③	7558-80-7	0.03%
	Sodium chloride ^④	7647-14-5	0.9%
[4-1]Anti Diacetylspermine antibody	Anti Diacetylspermine antibody		
	BSA ^⑤		0.1%
[4-2]HRP-anti Rabbit IgG Antibody	HRP-conjugated antibody	-	-
[5]Substrate solution	Disodium phasphate ^②	7558-79-4	3.57%
	Citric acid monophosphate ^④	5949-29-1	2.5%
	Hydrogen peroxide ^⑦	7722-84-1	0.02%
	Ferriox ^⑧	2809-21-4	0.2%
[6]OPD-tablets	o-Phenylenediamin ^⑨	95-54-5	-
[7]Wash solution	Tween-20	-	1%
	Disodium phosphate ^②	7558-79-4	2.3%
	Sodium dihydrogen phosphate ^③	7558-80-7	0.59%
	Sodium chloride ^④	7647-14-5	18.0%
[8]Stop solution	Sulfuric acid ^⑩	7664-93-9	5.4%

SYNONYMS: ①=N1,N12-diacetylspermine

②=Sodium phosphate dibasic, DSP

③=Sodium phosphate monobasic

⑤=Bovine serum albumin

⑥=2-Hydroxy-1,2,3-propanetricarboxylic acid monohydrate

⑦= Hydrogen dioxide, Hydroper oxide

⑧=(1-Hydroxyethylidene) bisphosphonic acid

⑨=1,2-Benzenediamine

⑩= Hydrogen sulfate

FORMULA: ②Na₂HPO₄ ③NaH₂PO₄ ④NaCl ⑥C₆H₈O₇·H₂O ⑦H₂O₂

⑧C₂H₈O₇P₂ ⑨C₆H₈N₂ ⑩H₂SO₄

MOLECULAR WEIGHT: ②141.96 ③120.01 ④58.44 ⑥210.14 ⑦34.02 ⑧206.03

⑨108.16 ⑩98.08

TSCA INVENTORY: ② ⑦ ⑧ ⑨ ⑩ Listed

⑥ (as Anhydrous) Listed

⑨ Not listed (See Section 15)

EINECS No.: ②2314487, ⑥ (as Anhydrous) 2010691, ⑦2317650, ⑧2205528

⑨2003223, ⑩2316395

INDICATION OF DANGER: [8]: Xi, R 36/38

Other reagents: -, R-

3. HAZARDS IDENTIFICATION

Irritating to eyes and skin. May be harmful if inhaled ingested

⑦: NFPA HR health-2, flam. -0, react.-3

⑨: NFPA HR health-1, react.-0

⑩: NFPA HR health-3, flam.-0, react.-2

4. FIRST AND MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

SKIN CONTACT : [8]: Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persist, transport to a hospital immediately.

Other reagents: Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persist, consult a physician.

EYE CONTACT : [8]: Remove any contact lenses at once. Flush eyes well with flooding

amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. Transport to a hospital immediately.

Other regents: Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.

INGESTION:[8]:Rinse mouth, give plenty of water to dilute the substance. Do not

induce vomiting. Never give anything by mouth to an unconscious person. Transport to a hospital immediately.

Other reagents: Rinse mouth; give plenty of water to dilute the substance.

Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water.

FIRE & EXPLOSION HAZARDS :Toxic, irritating fumes or smoke may be emitted.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate area. In case of insufficient ventilation, wear suitable respiratory equipment .

Avoid raising dust and avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEANUP:

[8]:Do not touch spilled material without suitable protection(see section 8).Take up

spilled material with ashes or other incombustible absorbents and dilute it with plenty of water and neutralized with soda ash. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all waste in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

Other reagent: Do not touch spilled material without suitable protection(see section 8).

Take up spilled material with ashes or other incombustible absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all waste in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

7. HANDLING AND STORAGE

Research use only.

HANDLING: Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.

Handle material with suitable protection away from source of heat or ignition.

STORAGE: Store away from sunlight in a cold(-30°C) well-ventilated dry place. See also the indication described on the label for handling.

INCOMPATIBLE PRODUCTS: Oxidizers

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING MEASURES: Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

VENTILATION: Local Exhaust; Necessary, Mechanical(General); Recommended.

CONTROL PARAMETER:

⑦ = OSHA Final Limits: TWA=1 ppm, 1.4 mg/m³

ACGIH TLV(s): TWA=1ppm, 1.4 mg/m³

⑨ = ACGIH TLV(s): TWA= 0.1mg/m³

⑩ = OSHA Final Limits: TWA= 1 mg/m³

ACGIH TLV(s): TWA= 1 mg/m³; STEL= 3 mg/ m³

PERSONAL PROTECTION:

Respiratory protection: NIOSH/MSHA approved respirator

Hand protection: Chemical resistant gloves

Eye protection: Safety glasses(goggles)

Skin protection: Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

[1] White powder

[5] Colorless clear liquid

[2] White powder

[6] White tablet

[3] Pale yellow clear liquid

[7] Colorless clear liquid

[4-1] Colorless clear liquid

[8] Colorless clear liquid

[4-2] Brown clear liquid

ODOR: [1], [2], [3], [4-1], [4-2], [5], [6], [7], [8]: Odorless

pH: Not available

BOILING POINT: Not available

MELTING POINT: Not available

FLASH POINT: Not available

FLAMMABILITY: Not available

DECOMPOSITION TEMPERATURE: Not available

EXPLOSIVE LIMITS: Not available

VOPOR PRESSURE: Not available

SPECIFIC GRAVITY: Not available

SOLUBILITY IN WATER:

[3],[5],[7],[8]: Miscible

[1],[2],[4-1],[4-2],[6]: Not available

log Po/w: Not available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: This material is stable under normal and anticipated ambient storage and handling conditions.

CONDITION TO AVOID: Sunlight, heat.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizers, metals, acids, acid chlorides.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, nitrogen oxides, sulfur oxides, phosphor oxides and sodium compounds may be formed.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA: Not available as the mixture

② = LD 50 (orl, rat):	17 mg/kg (28ZPAK-.16.72)
LD Lo (Scu, rat):	1000 mg/kg (BIZEA2 163.226.25)
③ = LD 50 (orl, rat):	8290 mg/kg (28ZPAK-.16.72)
④ = LD 50 (orl, rat):	3 mg/kg (TXAPA 9 20.57.71)
⑥ = LD 50 (ipr, rat):	375 mg/kg (NTIS * AD-A121-876)
⑧ = LD 50 (orl, mouse):	1800 mg/kg (ACLEAY 14.94.75)
⑨ = LD 50 (orl, rat):	1070 mg/kg (JTEHDG 2.657.77)
LD Lo (skn, rat):	5000 mg/kg (JTEHDG 2.657.77)
⑩ = LD 50 (orl, rat):	2140 mg/kg (AIHAAP 30.470.69)
LC 50 (ihl, mouse):	320 mg/m ³ /2H (85GMAT-.107.82)

IRRITATION DATA: Not available as the mixture

② = Eye; rabbit: 500 mg/24H: Mild (28ZPAK-.16.72)
Skin; rabbit: 500 mg/24H: Mild (28ZPAK-.16.72)
③ = Eye; rabbit: 150 mg: Mild (ARZNAD 9.349.59)
④ = Eye; rabbit: 100 mg/24H: Moderate (28ZPAK-.7.72)

⑥ = Eye; rabbit: 100 mg rinse: Mild(TXCYAC23.281.82)

⑩ = Eye; rabbit:100 mg rinse: Severe(TXCYAC23.281.82)

MUTATION DATA: Not available as the mixture

⑨ = Cytogenetic analysis; hamster; lung: 1 mg/L(ATSUDG 4.4I.80)

REPRODUCTIVE EFFECTS DATA: Not available as the mixture

⑧ = LDLo(scu, mouse): 200 mg/ kg(13D preg)(TJADAB 26(1).16A.82)

TUMORIGENIC DATA: Not available as the mixture

⑦(as 30 % Hydrogen peroxide)= TDLo(orl, mouse):622 mg/kg/2Y-C:Tumorigenic:

Gastrointestinal(HIUN**)

ADDITIONAL INFORMATION:

N T P: Not listed.

IARC: ⑦ = Not classifiable as to Carcinogenicity to Humans(Group 3)

OSHA: Not listed.

ACGIH: ⑨ = Suspected Human Carcinogen(A2)

⑨ = EPA GENETOX PROGRAM 1986. Negative: Rodent dominant lethal;

N crassaaneuploidy

12. ECOLOGICAL INFORMATION

BIODEGRABILITY: Not available

BIOACCUMULATION POTENTIAL: Not available

AQUATIC TOXICITY: ⑩ = LC 50(prawns): 42.5 ppm/48hr(saltwater)

OTHER DATA: Not available

13. DISPOSAL CONSIDERATIONS

[8]: Cautiously add to a large stirred excess of water. Adjust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal.

Flush the aqueous solution down the drain with plenty of water. Any disposal must be in compliance with local, state, and federal laws and regulations(contact local or state environmental agency specific rules).

Other reagents: Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal must be in compliance with local, state, and federal laws and regulations(contact local or state environmental agency specific rules).

14. TRANSPORT INFORMATION

IATA: Not Restricted as mixture

⑩: PROPER SHIPPING NAME: Sulphuric acid with more than 51 % acid

CLASS or DIVISION: Corrosives. (Class8)

UN or ID No.: UN2796

DOT (Department of Transportation): Not a Hazardous Material for DOT shipping.

⑩: PROPER SHIPPING NAME: Sulphuric acid with more than 51 % acid

CLASS or DIVISION: Corrosives. (Class8)

UN or ID No.: UN2796

15. REGULATORY INFORMATION

US REGULATIONS:

②: EPA: CERCLA RQ= 5,000lb

CWA/311 Haz., CERCLA Haz. Subst., DOT Haz. Subst. and Rep. Quant., Mass. Subst.

List. New Jers. RTK Haz. Subst. List. Penn. Haz. Subst. List

⑦: EPA: CERCLA RQ= 1,000lb. TPQ= 1,000lb

SARA III/302 Extre. Haz. Subst., Canad. WHMIS IDL1 % conc., Mass. Subst. List. New Jers. RTK Haz.

Subst. List. Penn. Haz. Subst. List

⑧: EPA: CERCLA RQ= 1,000lb.

CWA/311 Haz., NIOSH Recommended. Subst., CERCLA Haz. Subst.,

DOT Haz. Mat., DOT Haz. Subst. and Rep. Quant., Canad. WHMIS IDL1 % conc.,

Mass. Subst. List.

New Jers. RTK Haz Subst. List. Penn. Haz. Subst. List.

⑨: EPA: EPCRA section 313 de minimis concentration is 0.1 %.

TSCA/4(a) Final Test Rules/Cons. Agree., TSCA/8(a) Prel. Asses. Inf. Rule.

TSCA/12(b) Expor. Notif., TSCA CHIPs, Canad. WHMIS IDL 0.1 % conc.,

SARA III/313 Tox. Chem., Canad. WHMIS IDL 0.1 % conc. Mass. Subst. List. New Jers. RTK HAZ. Subst. List.

⑩: EPA: CERCLA RQ = 1,000lb. TPQ= 1,000lb

EPCRA section 313 de minimis concentration is 1.0 %.

CWA/311 Haz., NIOSH Recommend. Subst., CERCLA Haz. Subst.,

SARA III/302 Extre. Haz, Subst., SARA III/313 Tox. Chem., DOT Haz.

Subst. and Rep. Quant., Canad. WHMIS IDL1% conc., Mass. Subst. List.

New Jers. RTK Haz. Subst. List. Penn. Haz. Subst. List.

TSCA: Use of this product must be restricted to research or analysis for the development
of a product in accordance with the act.

EU REGULATIONS:

SYMBOL: [8], xi, Other regents: -

R-phrases: [8]: 36/38 Irritating to eyes and skin.

Other reagents:-

S-phrases: 36/37/39 Wear suitable protective clothing, gloves and eye/ face protection.

EC index No.: ②, ⑥ = Not listed., ③ = 231-449-2, ④ = 231-598-3

⑦ = 008-003-00-9, ⑩ = 016-020-00-8

16. OTHER INFORMATION

No specific notes

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 shall be used only as a guide.

This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk and Trans Genic Inc. shall not be held liable for any damage resulting from handling or from contact with the above material.