

# SAFETY DATA SHEET

Cat# BN00679, Akt Activity Assay Kit

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Akt Activity Assay Kit

**PRODUCT CODES:** Cat# BN00679

**MANUFACTURER:** Assay Genie (brand of Reagent Genie Ltd.)

**ADDRESS:** G1 The Steelworks, Foley Street, Dublin 1

**EMERGENCY PHONE:** +353 1 8879802

## SECTION 2: HAZARDS IDENTIFICATION

Component	Description	Volume	Safety Information
Kinase Extraction Buffer	Proprietary Buffer (contains Triton X-100, EDTA, DTT, PMSF, sodium pyrophosphate, $\text{Na}_3\text{VO}_4$ )	80 ml	See below
Akt Specific Antibody	Produced from rabbit serum	80 $\mu\text{l}$	No hazards
Protein A Sepharose	50% slurry	2 ml	No hazards
GSK-3 $\alpha$ Protein/ATP Mixture	Aqueous solution (contains EDTA, DTT, glycerol)	80 $\mu\text{l}$	See below
Kinase Assay Buffer	Proprietary Buffer (contains DTT, $\text{Na}_3\text{VO}_4$ )	25 ml	See below
Phospho-GSK-3 $\alpha$ Specific Antibody	Produced from rabbit serum (0.02% $\text{NaN}_3$ & 50% glycerol)	50 $\mu\text{l}$	No hazards

### Triton X-100:

#### Emergency Overview

**OSHA Hazards:** Irritant, Harmful by ingestion

**GHS Classification:** Serious eye damage (Category 1)  
Skin irritation (Category 3)  
Acute aquatic toxicity (Category 3)  
Chronic aquatic toxicity (Category 3)

#### GHS Label elements, including precautionary statements

Pictogram:



Signal word: Danger

Hazard statement(s): H316 Causes mild skin irritation.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s): P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
P264 Wash hands thoroughly after handling.  
P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

Health hazard: 2

Flammability: 1

Physical hazards: 0

#### NFPA Rating

Health Hazard: 2

Fire: 1

Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** Harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Harmful if swallowed.

### EDTA:

#### Emergency Overview

# SAFETY DATA SHEET

Cat# BN00679, Akt Activity Assay Kit

OSHA Hazards: Irritant

GHS Classification: Acute toxicity, Oral (Category 5)  
Eye irritation (Category 2A)  
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): H303 May be harmful if swallowed.  
H319 Causes serious eye irritation.  
H402 Harmful to aquatic life.

Precautionary statement(s): P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

## HMIS Classification

Health hazard: 2

Flammability: 0

Physical hazards: 0

## NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

## Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

## DTT:

### Emergency Overview

OSHA Hazards: Target organ effect, Toxic by ingestion, Irritant

Target Organs: Central nervous system

GHS Classification: Acute toxicity, Oral (Category 5)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)

GHS Label elements, including precautionary statements



Pictogram:

Signal word: Warning

Hazard statement(s): H303 May be harmful if swallowed  
H315 Causes skin irritation  
H319 Causes serious eye irritation

Precautionary statement(s): P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## HMIS Classification

Health hazard: 2

Chronic Health Hazard: \*

Flammability: 0

Physical hazards: 0

## NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

## Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Toxic if swallowed.

### PMSF:

#### Emergency Overview

**OSHA Hazards:** Target organ effect, Toxic by ingestion, Corrosive

**Target Organs:** Nerves, Heart, Blood, Eyes

**GHS Classification:** Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1B)

Serious eye damage (Category 1)

#### GHS Label elements, including precautionary statements

Pictogram:



Signal word: Danger

Hazard statement(s): H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s): P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

#### HMIS Classification

**Health hazard:** 3

**Chronic health hazard:** \*

**Flammability:** 0

**Physical hazards:** 1

#### NFPA Rating

**Health Hazard:** 3

**Fire:** 0

**Reactivity Hazard:** 1

#### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

### Sodium pyrophosphate:

#### Emergency Overview

**OSHA Hazards:** Irritant

**GHS Classification:**

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity –single exposure (Category 3)

#### GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s): P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

#### HMIS Classification

**Health hazard:** 2

**Flammability:** 0

**Physical hazards:** 0

#### NFPA Rating

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

### Sodium orthovanadate:

#### Emergency Overview

**OSHA Hazards:** Harmful by ingestion, Harmful by inhalation, Harmful by skin absorption

**GHS Classification:** Acute toxicity, Oral (Category 4)  
Acute toxicity, Inhalation (Category 4)  
Acute toxicity, Dermal (Category 4)  
Acute aquatic toxicity (Category 3)

#### GHS Label elements, including precautionary statements

##### Pictogram:



**Signal word:** Warning

**Hazard statement(s):** H302+H312 Harmful if swallowed or in contact with skin.  
H332 Harmful if inhaled.  
H402 Harmful to aquatic life.

**Precautionary statement(s):** P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

#### HMIS Classification

Health hazard: 2

Flammability: 0

Physical hazards: 0

#### NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

### Potential Health Effects

**Inhalation:** Harmful if inhaled. May cause respiratory tract irritation.

**Skin:** Harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** Harmful if swallowed.

### Glycerol:

#### Emergency Overview

**OSHA Hazards:** Target Organ Effect

**Target Organs:** Kidney

**GHS Classification:** Skin irritation (Category 3)  
Eye irritation (Category 2B)

#### GHS Label elements, including precautionary statements

##### Pictogram:

**Signal word:** Warning

**Hazard statement(s):** H316 Causes mild skin irritation.  
H320 Causes eye irritation.

**Precautionary statement(s):** P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

Health hazard: 1

Chronic Health Hazard: \*

Flammability: 1

Physical hazards: 0

#### NFPA Rating

Health hazard: 1

Fire: 1

Reactivity Hazard: 0

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula
Triton X-100	9002-93-1	--	--	--
EDTA	60-00-4	200-449-4	292.24	C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>8</sub>
DTT	3483-12-3	222-468-7	154.25	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> S <sub>2</sub>
PMSF	56-81-5	200-289-5	92.09	C <sub>7</sub> H <sub>7</sub> FO <sub>2</sub> S
Sodium pyrophosphate	13472-36-1	231-767-1	446.06	Na <sub>4</sub> O <sub>7</sub> P <sub>2</sub>
Sodium orthovanadate	13721-39-6	237-287-9	183.91	Na <sub>3</sub> VO <sub>4</sub>
Glycerol	56-81-5	200-289-5	92.09	HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH

### SECTION 4: FIRST AID MEASURES

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### SECTION 5: FIRE-FIGHTING MEASURES

**Condition of flammability:** Not flammable or combustible.

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous combustion products formed under fire conditions— no data available.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### SECTION 7: HANDLING AND STORAGE

#### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

#### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Personal protective equipment

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Eye protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

### Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Triton X-100	EDTA	DTT	PMSF
Appearance:	Liquid	White powder	Clear liquid	White solid
pH:	9.7	2.5 at 10 g/l	3.0-5.0	No data available
Water Solubility:	Soluble	No data available	Highly soluble	No data available
Other Solubility:	No data available	No data available	No data available	No data available
Boiling Point (°C)	>200 °C (>392 °F)	No data available	No data available	No data available
Melting Point (°C)	6 °C (43 °F)	250 °C (482 °F)	No data available	92 °C (198 °F)
Flash Point (°C)	251 °C (484 °F)	No data available	No data available	No data available
Ignition Temp. (°C)	No data available	No data available	No data available	No data available
Density:	1.070 g/ml	0.860 g/cm <sup>3</sup>	1.035 g/cm <sup>3</sup>	No data available

Property	Sodium pyrophosphate	Sodium orthovanadate	Glycerol
Appearance:	Crystalline solid	White to off-white solid	Clear liquid
pH:	9.5-10.5	No data available	5.5-8
Water Solubility:	No data available	No data available	Soluble
Other Solubility:	No data available	No data available	No data available
Boiling Point (°C)	No data available	No data available	182 °C (360 °F)
Melting Point (°C)	79.5 °C (175.1 °F)	850-866 °C (1,562-1,591 °F)	20 °C (68 °F)
Flash Point (°C)	No data available	No data available	160 °C (320 °F)
Ignition Temp. (°C)	No data available	No data available	370 °C (698 °F)
Density:	1.820 g/cm <sup>3</sup>	No data available	1.25 g/ml

## SECTION 10: STABILITY AND REACTIVITY

Property	Triton X-100	EDTA	DTT	PMSF
Chemical Stability:	Stable under recommended storage conditions			
Conditions to Avoid:	No data available	No data available	No data available	Water: can generate flammable and/or explosive hydrogen gas
Materials to Avoid:	Strong oxidizing agents, strong acids, strong bases	Strong oxidizing agents	Bases, oxidizing agents, reducing agents, alkali metals	Strong oxidizing agents, strong acids, strong bases
Hazardous decomposition: products:	Carbon oxides	Carbon oxides, nitrogen oxides	Carbon oxides, sulfur oxides, hydrogen sulfide gas	Carbon oxides, sulfur oxides, hydrogen fluoride

Property	Sodium pyrophosphate	Sodium orthovanadate	Glycerol
Chemical Stability:	Stable under recommended storage conditions		
Conditions to Avoid:	No data available	No data available	Not available
Materials to Avoid:	Strong oxidizing agents	Strong oxidizing agents	Strong bases, strong oxidizing agents
Hazardous decomposition: products:	No data available	Sodium oxides, vanadium/vanadium oxides	Carbon oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### Triton X-100:

Acute toxicity: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

### Carcinogenicity:

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** Harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Harmful if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

**Additional information:** RTECS: not available

### EDTA:

**Acute toxicity:** LD50 Oral – rat – 2,580 mg/kg

**Skin corrosion/irritation:** Skin – rabbit – no skin irritation

**Serious eye damage/eye irritation:** Eyes – rabbit – eye irritation

**Respiratory or skin sensitization:** Will not occur

**Germ cell mutagenicity:** no data available

### Carcinogenicity:

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** Inhalation – may cause respiratory irritation.

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

### DTT:

**Acute toxicity:** no data available

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

### Carcinogenicity:

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Toxic if swallowed.

**Signs and Symptoms of Exposure:** Exposure may cause central nervous system depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

**Additional information:** RTECS: not available

### PMSF:

**Acute toxicity:** LD50 Oral – mouse – 200 mg/kg

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

### Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns.

**Ingestion:** Toxic if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

**Additional information:** RTECS: XT8040000

### Sodium pyrophosphate decahydrate:

**Acute toxicity:** no data available

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

### Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** Inhalation – may cause respiratory irritation.

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.



# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

**Additional information:** RTECS: not available

### Sodium orthovanadate:

**Acute toxicity:** LD50 Oral – rat – 330 mg/kg; Remarks: diarrhea, blood (hemorrhage)

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

#### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

#### **Potential Health Effects**

**Inhalation:** Harmful if inhaled. May cause respiratory tract irritation.

**Skin:** Harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** Harmful if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects:** no data available

**Additional information:** RTECS: YW1120000

### Glycerol:

**Acute toxicity:** LD50 Dermal – rabbit – >10,000 mg/kg

**Irritation and corrosion:** no data available

**Sensitization:** no data available

**Germ cell mutagenicity:** no data available

#### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

#### **Potential Health Effects**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

**Synergistic effects:** no data available

**Additional information:** RTECS: MA8050000

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## SECTION 12: ECOLOGICAL INFORMATION

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### Triton X-100:

**Persistence and degradability:** no data available

**Toxicity:** no data available

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

# SAFETY DATA SHEET

Cat# BN00679, Akt Activity Assay Kit

## EDTA:

**Persistence and degradability:** no data available

**Toxicity:** Toxicity to fish: mortality NOEC – Lepomis macrochirus – 24 mg/l – 96.0 h

LC50 – Lepomis macrochirus (Bluegill) – 34-62 mg/l – 96.0 h

Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (Water flea) – 113 mg/l – 48 h

**Bioaccumulative potential:** Lepomis macrochirus – 28 d

Bioconcentration factor (BCF): 1.8

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life. May be harmful to aquatic organisms due to the shift of the pH. Avoid release to the environment.

## Sodium orthovanadate:

**Persistence and degradability:** no data available

**Toxicity:** Toxicity to fish: LC50 Oncorhynchus tshawytscha – 16.5 mg/l – 96 h

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**Product:** Observe all federal, state, and local environmental regulations.

**Contaminated packaging:** Dispose of as unused product.

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## SECTION 14: TRANSPORT INFORMATION

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### EDTA:

**DOT (US):** UN-Number: 3077 Class: 9, Packing group: III; Proper shipping name: Environmentally hazardous substances, solid, n.o.s.

(Edetic acid); Reportable Quantity (RQ): 5000 lbs.; Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

### PMSF:

**DOT (US):** UN-number: 2928, Class: 6.1 (8), Packing group: II; Proper shipping name: Toxic solid, corrosive, organic, n.o.s.

( $\alpha$ -Toluenesulphonyl fluoride); Marine pollutant: No; Poison inhalation hazard: No

**IMDG:** UN-number: 2928, Class: 6.1 (8), Packing group: II; EMS-No: F-A, S-B; Proper shipping name: TOXIC SOLID, CORROSIVE,

ORGANIC, N.O.S. ( $\alpha$ -Toluenesulphonyl fluoride); Marine pollutant: No

**IATA:** UN-number: 2928, Class: 6.1 (8), Packing group: II; Proper shipping name: Toxic solid, corrosive, organic, n.o.s. ( $\alpha$ -Toluenesulphonyl fluoride)

### Triton X-100, DTT, Sodium pyrophosphate, Sodium orthovanadate, Glycerol:

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

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## SECTION 15: REGULATORY INFORMATION

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**SARA 302 Components:** SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313:

Sodium orthovanadate, CAS-No. 13721-39-6; Revision Date: 2007-07-01

**SARA 311/312 Hazards:** Triton X-100, EDTA, Sodium pyrophosphate & Sodium orthovanadate: Acute Health Hazard

DTT, PMSE: Acute Health Hazard, Chronic Health Hazard

Glycerol: Chronic Health Hazard

**Massachusetts Right To Know Components:** Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01

**Pennsylvania Right To Know Components:** Triton X-100, CAS-No. 9002-93-1

EDTA, CAS-No. 6381-92-6

DTT, CAS-No. 3483-12-3

PMSE, CAS-No. 329-98-6

Sodium pyrophosphate, CAS-No. 13472-36-1; Revision Date: 2007-03-01

Sodium orthovanadate, CAS-No. 13721-39-6; Revision Date: 2007-07-01

Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01

**New Jersey Right To Know Components:** Triton X-100, CAS-No. 9002-93-1

EDTA, CAS-No. 6381-92-6

DTT, CAS-No. 3483-12-3

# SAFETY DATA SHEET

## Cat# BN00679, Akt Activity Assay Kit

PMSF, CAS-No. 329-98-6

Sodium pyrophosphate, CAS-No. 13472-36-1; Revision Date: 2007-03-01

Sodium orthovanadate, CAS-No. 13721-39-6; Revision Date: 2007-07-01

Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01

**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

### EU regulations

Component	Risk Phrases	Safety Phrases
Triton X-100	R22, R52/53	S22, S36/37/39, S45
EDTA	R36/38	S26, S36
DTT	R20/21/22	S60
PMSF	R34	S26, S36/37/39, S45
Sodium pyrophosphate	R36/37/38	S22, S26, S36/37/39, S45
Sodium orthovanadate	R20/21/22	S24/25, S37/39
Glycerol	--	S24/25

### SECTION 16: OTHER INFORMATION:

#### OTHER INFORMATION:

#### PREPARATION INFORMATION:

#### DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Assay Genie shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.