

# SAFETY DATA SHEET

Cat# BN00656, TUNEL Assay Kit (BrdU-IHC DNA)

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TUNEL Assay Kit (BrdU-IHC DNA)

**PRODUCT CODES:** Cat# BN00656

**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
Control Slides	Positive/Negative Control Cells (in Ethanol)	2 each	See below
Blocking Buffer	Proprietary Buffer (contains BSA)	22 ml	See below
H <sub>2</sub> O <sub>2</sub> /Urea Tablets	Solid	6 ea	See below
Protease K	Solution	0.11 ml	See below
DAB Tablets	Solid	6 ea	See below
TdT Enzymes	Liquid	0.041 ml	No hazards
Br-dUTP	Liquid	0.44 ml	No hazards
200X Conjugate	Liquid	0.035 ml	No hazards
5X Reaction Buffer	Proprietary Buffer	1.75 ml	No hazards
Anti-BrdU-Biotin mAb	Liquid	0.275 ml	No hazards
Methyl Green	Liquid	6 ml	See below

### Ethanol:

#### Emergency Overview

**OSHA Hazards:** Highly flammable liquid, Target organ effect, Irritant, Carcinogen

**Target Organs:** Nerves, Liver, Heart

**GHS Classification:** Flammable liquids (Category 2)  
Skin irritation (Category 2)  
Eye irritation (Category 2B)  
Specific target organ toxicity – single exposure (Category 3)

#### GHS Label elements, including precautionary statements



Pictogram:

Signal word:

Danger

Hazard statement(s):

H225 Highly flammable liquid and vapor  
H315+H320 Causes skin and eye irritation.  
H335 May cause respiratory irritation.

Precautionary statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
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: 3

Physical hazards: 0

#### NFPA Rating

Health Hazard: 2

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Fire: 3

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.

## Bovine serum albumin (BSA):

**Emergency Overview:** Originates from USA where BSE has not been reported

**OSHA Hazards:** No known OSHA hazards

**GHS Classification:** Not a dangerous substance according to GHS

**GHS Label elements, including precautionary statements**

**Pictogram:** none

**Signal word:** none

**Hazard statement(s):** none

**Precautionary statement(s):** none

## HMIS Classification

**Health hazard:** 0

**Flammability:** 0

**Physical hazards:** 0

## NFPA Rating

**Health Hazard:** 0

**Fire:** 0

**Reactivity Hazard:** 0

## 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.

## Hydrogen peroxide:

### Emergency Overview

**OSHA Hazards:** Oxidizer, Target organ effect, Harmful by ingestion, Corrosive

**Target Organs:** Eyes, Skin, Respiratory system

**GHS Classification:** Oxidizing liquids (Category 1)  
Acute toxicity, Oral (Category 4)  
Acute toxicity, Inhalation (Category 5)  
Skin corrosion (Category 1A)  
Serious eye damage (Category 1)  
Acute aquatic toxicity (Category 3)

**GHS Label elements, including precautionary statements**



**Pictogram:**

**Signal word:** Danger

**Hazard statement(s):** H271 May cause fire or explosion; strong oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H333 May be harmful if inhaled.

H402 Harmful to aquatic life.

**Precautionary statement(s):** P220 Keep/store away from clothing/combustible materials.

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:** 2

## NFPA Rating

**Health Hazard:** 3

**Fire:** 0

**Reactivity Hazard:** 2

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Special Hazard: OX

## 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:** Harmful if swallowed.

## Protease K:

### Emergency Overview

**OSHA Hazards:** Target organ effect, Respiratory sensitizer, Irritant

**Target Organs:** Lungs

**GHS Classification:** Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Respiratory sensitization (Category 1)  
Specific target organ toxicity – single exposure (Category 3)

**GHS Label elements, including precautionary statements**

**Pictogram:**



**Signal word:** Danger

**Hazard statement(s):** H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

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

P280 Wear protective gloves.

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

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

## 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.

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

**Eyes:** Causes eye irritation.

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

## DAB:

### Emergency Overview

**OSHA Hazards:** Carcinogen, Mutagen

**GHS Classification:** Germ cell mutagenicity (Category 2)  
Carcinogenicity (Category 1B)

**GHS Label elements, including precautionary statements**

**Pictogram:**



**Signal word:** Danger

**Hazard statement(s):** H341 Suspected of causing genetic defects.  
H350 May cause cancer.

**Precautionary statement(s):** P201 Obtain special instructions before use.  
P281 Use personal protective equipment as required.  
P308+P313 IF exposed or concerned: Get medical advice/attention.

## HMIS Classification

**Health hazard:** 0

**Chronic health hazard:** \*

**Flammability:** 0

**Physical hazards:** 0

## NFPA Rating

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Health Hazard: 0

Fire: 0

Reactivity Hazard: 0

## 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.

## Methyl green:

### 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/fume/gas/mist/vapors/spray.

P280 Wear protective gloves.

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: 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.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula
Ethanol	64-17-5	200-578-6	46.07	C <sub>2</sub> H <sub>6</sub> O
Bovine Serum Albumin (BSA)	9048-46-8	232-936-2	--	--
Hydrogen peroxide	7722-84-1	231-765-0	34.01	H <sub>2</sub> O <sub>2</sub>
Protease K	39450-01-6	254-457-8	28.9 kDa	--
Diaminobenzidine (DAB)	91-95-2	202-110-6	214.27	C <sub>12</sub> H <sub>14</sub> N <sub>4</sub>
Methyl Green	7114-03-6	230-415-4	653.24	C <sub>27</sub> H <sub>35</sub> BrClN <sub>3</sub> · ZnCl <sub>2</sub>

## 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

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## Ethanol:

**Condition of flammability:** Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**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 decomposition products formed under fire conditions— see section 10.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. 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 inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition (no smoking). Take measures to prevent the buildup of electrostatic charge.

### Conditions for safe storage

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

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: -20 °C.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ethanol:

Components	CAS-No.	Value	Control parameters	Basis
Ethanol	64-17-5	TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks: Upper respiratory tract irritation. Confirmed animal carcinogen with unknown relevance to humans.				
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	USA. OSHA: TABLE Z-1 Limits for Air Contaminants – 1910.1000
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA): Table Z-1 Limits for Air Contaminants
The value in mg/m <sup>3</sup> is approximate.				
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	USA. NIOSH recommended exposure limits

### Hydrogen peroxide

Components	CAS-No.	Value	Control parameters	Basis
Hydrogen peroxide	7722-84-1	TWA	1 ppm	USA. ACGIH Threshold Values (TLV)
Remarks: Eye, skin, & upper respiratory tract irritation. Confirmed animal carcinogen with unknown relevance to humans.				
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) – Table Z-1 – Limits for Air Contaminants
The value in mg/m <sup>3</sup> is approximate.				
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. OSHA – Table Z-1 Limits for Air Contaminants – 1910.1000

### BSA, Protease K, DAB, & Methyl green:

Contains no substances with occupational exposure limit values.

### 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.

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## 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).

## 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	Ethanol	BSA	Hydrogen peroxide
Appearance:	Clear liquid	Lyophilized powder	Clear liquid
pH:	No data available	4.8-7.5	No data available
Water Solubility:	Completely soluble	Slightly soluble	No data available
Other Solubility:	No data available	No data available	No data available
Boiling Point (°C)	78-80 °C (172.4-176 °F)	No data available	No data available
Melting Point (°C)	-144 °C (-227.2 °F)	No data available	No data available
Flash Point (°C)	14 °C (57.2 °F)	No data available	No data available
Ignition Temp. (°C)	363 °C (685°F)	No data available	No data available
Density:	0.79 g/cm <sup>3</sup>	No data available	1.11 g/cm <sup>3</sup>

Property	Protease K	DAB	Methyl green
Appearance:	Lyophilized powder	Solid	Solid
pH:	No data available	No data available	No data available
Water Solubility:	No data available	No data available	No data available
Other Solubility:	No data available	No data available	No data available
Boiling Point (°C)	No data available	No data available	No data available
Melting Point (°C)	No data available	175-177 °C (347-351 °F)	>300 °C (>572 °F)
Flash Point (°C)	No data available	No data available	No data available
Ignition Temp. (°C)	No data available	No data available	No data available
Density:	No data available	No data available	No data available

## SECTION 10: STABILITY AND REACTIVITY

Property	Ethanol	BSA	Hydrogen peroxide
Chemical Stability:	Stable under recommended storage conditions		
Conditions to Avoid:	Heat, flames, sparks, direct sunlight	No data available	No data available
Materials to Avoid:	Alkali metals, ammonia, oxidizing agents, peroxides	Strong oxidizing agents	Zinc, powdered metals, iron, copper, nickel, brass, iron, and iron salts
Hazardous decomposition products:	Carbon oxides	No data available	No data available

Property	Protease K	DAB	Methyl green
Chemical Stability:	Stable under recommended storage conditions		
Conditions to Avoid:	No data available	Light	No data available
Materials to Avoid:	Strong oxidizing agents	Strong oxidizing agents	Strong oxidizing agents
Hazardous decomposition products:	No data available	Carbon oxides, nitrogen oxides	Carbon oxides, nitrogen oxides, hydrogen chloride gas, hydrogen bromide gas, zinc oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### Ethanol:

**Acute toxicity:** LD50 Oral – rat – 7,060 mg/kg □ Remarks: Lungs, thorax, or respiration : other changes

LC50 Inhalation – rat – 10 h – 20000 ppm

**Skin corrosion/irritation:** Skin – rabbit – irritating to skin – 24 h

**Serious eye damage/eye irritation:** Eyes – rabbit – mild eye irritation – 24 h (Draize test)

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

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**Germ cell mutagenicity:** no data available

**Carcinogenicity:** Carcinogenicity – mouse – oral ☐ Tumorigenic: equivocal tumorigenic agent by RTECS criteria. Liver: tumors. Blood: Lymphomas including Hodgkin's disease.

- 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:** Reproductive toxicity – human – female – oral ☐ Effects on newborn: apgar score (human only), other neonatal measures or effects, and drug dependence.

**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:** Exposure may cause central nervous system depression, narcosis, and/or damage to the heart. 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: KQ6300000

### Hydrogen peroxide:

**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:** 3 – Group 3: Not classifiable as to its carcinogenicity to humans (Hydrogen peroxide)
- 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:** 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

### Protease K:

**Acute toxicity:** no data available

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

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

**Respiratory or skin sensitization:** May cause sensitization by inhalation.

**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.

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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):** May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure (GHS):** 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:** Prolonged or repeated exposure can cause asthma.

**Additional information:** RTECS: not available

### DAB:

**Acute toxicity:** LC50 Oral – mouse – 1,834 mg/kg

**Irritation and corrosion:** no data available

**Sensitization:** no data available

**Germ cell mutagenicity:** In vitro tests showed mutagenic effects.

Genotoxicity in vitro – rat – Liver ☐ Unscheduled DNA synthesis

Genotoxicity in vivo – mouse – Intraperitoneal ☐ Cytogenetic analysis

**Carcinogenicity:** Carcinogenicity – rat – Oral ☐ Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Presumed to have carcinogenic potential for humans.

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

### 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.

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

**Additional information:** RTECS: DV8750000

### Methyl green:

**Acute toxicity:** no data available

**Irritation and corrosion:** no data available

**Sensitization:** no data available

**Germ cell mutagenicity:** no data available

**Carcinogenicity:** no data available

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

### Potential Health Effects

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

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



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**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.

**Additional information:** RTECS: not available

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### SECTION 12: ECOLOGICAL INFORMATION

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#### **Hydrogen peroxide:**

**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.

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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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#### **Ethanol:**

**DOT (US):** UN-number: 1170, Class: 3, Packing group: II; Proper shipping name: Ethanol; Marine pollutant: No; Poison inhalation hazard: No

**IMDG:** UN-number: 1170, Class: 3, Packing group: II; EMS-No: F-E, S-D; Proper shipping name: ETHANOL; Marine pollutant: No

**IATA:** UN-number: 1170, Class: 3, Packing group: II; Proper shipping name: Ethanol

#### **Hydrogen peroxide:**

**DOT (US):** UN-Number: 2014, Class: 5.1 (8), Packing group: II; Proper shipping name: Hydrogen peroxide, aqueous solutions; Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** UN-Number: 2014, Class: 5.1 (8), Packing group: II; EMS-No: F-H, S-Q; Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION; Marine pollutant: No

**IATA:** UN-Number: 2014, Class: 5.1 (8), Packing group: II; Proper shipping name: Hydrogen peroxide, aqueous solution

#### **BSA, Protease K, DAB, Methyl green:**

**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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**OSHA Hazards:** Ethanol: Highly flammable liquid, Target organ effect, Irritant, Carcinogen

Hydrogen peroxide: Oxidizer, Target organ effect, Harmful by ingestion, Corrosive

Protease K: Target organ effect, Respiratory sensitizer, Irritant

DAB: Carcinogen, Mutagen

Methyl green: Irritant

**SARA 302 Components:** The following components are subject to reporting levels established by SARA Title III, Section 302:

Hydrogen peroxide, CAS-No. 7722-84-1; Revision Date: 1993-04-24

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

Methyl green, CAS-No. 7114-03-6; Revision Date: 2007-07-01

**SARA 311/312 Hazards:** Ethanol: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Hydrogen peroxide: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Methyl green: Acute Health Hazard

DAB: Chronic Health Hazard

Protease K: Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:** Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01

Hydrogen peroxide, CAS-No. 7722-84-1; Revision Date: 1993-04-24

**Pennsylvania Right To Know Components:** Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01

Serum albumin (BSA), CAS-No. 9048-46-8

Hydrogen peroxide, CAS-No. 7722-84-1; Revision Date: 1993-04-24

Protease K, CAS-No. 39450-01-6

Diaminobenzidine (DAB), CAS-No. 91-95-2

Methyl green, CAS-No. 7114-03-6; Revision Date: 2007-07-01

**New Jersey Right To Know Components:** Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01

Serum albumin (BSA), CAS-No. 9048-46-8

# SAFETY DATA SHEET

## Cat# BN00656, TUNEL Assay Kit (BrdU-IHC DNA)

Hydrogen peroxide, CAS-No. 7722-84-1; Revision Date: 1993-04-24

Protease K, CAS-No. 39450-01-6

Diaminobenzidine (DAB), CAS-No. 91-95-2

Methyl green, CAS-No. 7114-03-6; Revision Date: 2007-07-01

**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
Ethanol	R11, R20/21/22	S16, S36/37/39, S45
BSA	--	--
Hydrogen peroxide	R22, R41	S26, S39
Protease K	R36/37/38, R42	S22, S24, S26, S36/37
DAB	R45, R68	S45, S53
Methyl green	R36/37/38	S26, S36

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### SECTION 16: OTHER INFORMATION:

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#### 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.