MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product name:	Annexin V-Cyanine5/PI Apoptosis Kit
Catalog Number:	E-CK-A221
Application:	For research use only

SECTION 2 HAZARDS IDENTIFICATION

2.1 HAZARD STATEMENT

Classification according to GHS

2.1.1 Propidium iodide

H341: Suspected of causing genetic defects.

2.1.2 Dimethyl sulfoxide

H227: Flammable liquid.

2.1.3 Proclin 300

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H332: Harmful if inhaled.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

2.2 PRECAUTION STATEMENT

Classification according to GHS

2.2.1 Propidium iodide

P201: Obtain special instructions before use.

P308 + P313: IF exposed or concerned: Get medical advice/ attention.

2.2.2 Dimethyl sulfoxide

H210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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

P370 + P378: In case of fire: Use dry sand, dry powder or alcohol-resistant foam to extinguish the fire.

P403 + P235: Store in a well-ventilated place. Keep it cool.

P501: Send the contents/containers to an approved waste treatment plant for disposal.

2.2.3 Proclin 300

P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

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

P301 + P312 + P330: IF SWALLOWED, call a POISON CENTER/doctor; if you feel unwell, Rinse mouth.

P303 + P361 + P353: IF ON SKIN (or hair), take off immediately all contaminated clothing, Rinse skin with water/shower.
P304 + P340 + P310: IF INHALED, remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338: IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Items	Physical form	Hazardous Ingredient	Concentration	CAS No.
Reagent 1	Odorless and blue color, liquid	Proclin 300	0.04%	55965-84-9
Reagent 2	Odorless and colorless, liquid	No hazards	-	-
Reagent 3	Odorless and light red, liquid	Propidium iodide	0.0049%	25535-16-4
		Dimethyl sulfoxide	0.08%	67-68-5

SECTION 4 FIRST-AID MEASURES

Classification according to GHS

4.1 General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.2 If inhaled

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

4.3 In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

4.4 In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 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

5.1 Suitable extinguishing media

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.
For small fires, use media such as “alcohol” foam, dry chemical or carbon dioxide.
For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

5.2 Special precautions for fire-fighters

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

5.3 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Person-related safety 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.

6.2 Measures for environmental protection

Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into the environment must be avoided.

6.3 Measures for containment and cleaning

Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Handling

Wear appropriate protective clothing and safety gloves.

Avoid inhalation.

Avoid contact with eyes, skin and clothing.

Mechanical exhaust required.

Keep away from ignition sources, heat and flame.

No smoking at working site.

Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.

Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

7.2 Storage

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

Keep away from heat, sparks and flame.

Keep away from sources of ignition.

Incompatible: Strong oxidizing agents, Strong acids.

Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION 8 EXPOSURE CONTROL/PPE

8.1 Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

8.2 Personal Protective Equipment

Respiratory: Government approved respirator if needed.

Eye/face: Chemical safety goggles if needed.

Clothing: Wear appropriate protective clothing.

Hand/skin: Protective 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.

Body protection: Wear suitable protective clothing according to the concentration and amount of the substance at the workplace.

8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION 9 PHYSICAL/CHEMIICAL PROPERTIES

9.1 Propidium iodide

a) Appearance Form: solid (Colour: dark red)

b) Odour: No data available

c) Odour Threshold: No data available

d) pH: No data available

e) Melting point/freezing point: Melting point/range: 220 - 225°C - dec.

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapour pressure: No data available

l) Vapour density: No data available

m) Relative density: No data available

n) Water solubility: No data available

o) Partition coefficient: n-octanol/water: No data available

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available.

9.2 Dimethyl sulfoxide

a) Appearance: Clear liquid

b) Odour: No data available

c) Odour threshold: No data available

d) Melting point/freezing point: 16-19 °C

e) Initial boiling point and boiling range: 189°C

f) Flash point: 87°C- closed cup

g) Evaporation rate: No data available

h) Flammability (solid, gas): No data available

i) Upper/lower flammability or explosive limits: 28.5% (V)/ 2.6% (V)

j) Vapour pressure: 0.55 hPa (20°C)

k) Vapour density: No data available

l) Relative density: 1.1 g/mL

m) Solubility: Completely miscible

n) Partition coefficient: noctanol/water: No data available

o) Auto-ignition temperature: No data available

p) Decomposition temperature: No data available

q) Viscosity: No data available

r) Explosive properties: No data available

s) Oxidizing properties: No data available

9.3 Proclin 300

a) Appearance: Liquid

b) Odour: No data available

c) Odour threshold: No data available

d) pH 4.1 at 100 g/L

e) Melting point/freezing point: - 40 °C

f) Initial boiling point and boiling range: 189 °C

g) Flash point: 118 °C - closed cup

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapour pressure: No data available

l) Vapour density: No data available

m) Relative density: 1.03 g/cm3

n) Water solubility: Soluble

o) Partition coefficient: noctanol/water: No data available

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

10.6 Hazardous decomposition products

Other decomposition products: No data available

Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Propidium iodide

Acute toxicity

No data available

LD50 Subcutaneous - Mouse - 16 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

In vitro tests showed mutagenic effects

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.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure.

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Dimethyl sulfoxide

Acute toxicity

LD50 Oral - Rat - 28300 mg/kg

LD50 Dermal - Rabbit - 40000 mg/kg

Skin corrosion/irritation

Skin - Rabbit Result: Mild irritation (4h)

Eyes - Rabbit Result: Mild irritation (24h)

Respiratory or skin sensitisation - Guinea pig Result: Negative.

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.

11.3 Proclin 300

Acute toxicity

LD50 Oral - Rat - 862 mg/kg

LD50 Dermal - Rabbit - 2,800 mg/kg

Skin corrosion/irritation

Skin - Rabbit - Corrosive

Serious eye damage/eye irritation

Eyes - Rabbit - Corrosive to eyes

Respiratory or skin sensitisation

- Guinea pig - May cause sensitisation by skin contact.

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.

Reproductive toxicity

No data available

SECTION 12 ECOLOGICAL INFORMATION

12.1 Propidium iodide

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher.

Other adverse effects

No data available

12.2 Dimethyl sulfoxide

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

No data available.

Other adverse effects

No data available

12.3 Proclin 300

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

No data available

Other adverse effects

No data available

SECTION 13 DISPOSAL CONSIDERATION

13.1 Disposal methods

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.2 Contaminated packaging

Dispose in the same manner as unused product.

SECTION 14 TRANSPORT INFORMATION

RID/ADR: Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA: Non-Hazardous for Air Transport.

IMO: Non-Hazardous for Sea Transport.

SECTION 15 REGULATORY INFORMATION

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

SECTION 16 OTHER INFORMATION

IMPORTANT! Read the safety data sheets before the use and disposal of this product. Insure that this information is understood by the operators exposed to this product. Use this product for the intended purpose as indicated in the instruction manual.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from this use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.