	MATERIAL SAFETY DATA SHEET		
	Referency MSDS-KMAF	Revision Number 1	Last Revision date: 30-06-17

1. COMPANY AND PRODUCT IDENTIFICATION

Product Name:	MITOSTEP + ANNEXIN V AND PROPIDIUM IODIDE APOPTOSIS DETECTION KIT
Manufacturer / Supplier:	IMMUNOSTEP, S.L. Avd. Universidad de Coimbra, s/n. Centro de Investigación del Cáncer (CIC) Campus Miguel de Unamuno 37007 Salamanca-Spain Tfno/Fax: +34 923294827
Information relative to Technical Services:	tech@immunostep.com
Emergency Information:	+34915620420 // Instituto Nacional de Toxicología. Madrid.

2. INFORMATION ABOUT COMPONENTS

2.1. Description:

Annexin V phosphate buffer 0,01 M diluted, with 0,1 % sodium azide as a preservative.

Binding Buffer.

Propidium Iodide.

2.2. hazardous ingredients:

COMPONENT	Num.- CAS	MOLECULAR WEIGHT	% w/v
PROPIDIUM IODIDE (PI)	25535-16-4	668,39 g/mol	<0,01
SODIUM AZIDE (NaN ₃)	26628-22-8	65,0099	>0,09
DiI _{C₁} (5)	36536-22-8	-	
DMSO	67-68-5	78,13	

Buffered aqueous solution, with components that are below the regulatory threshold limits according EC No 1272/2008 .

3. HAZARDS IDENTIFICATION


The toxicity information that follows describes the hazards associated with Sodium azide, Propidium Iodide and DMSO. To the best of our knowledge, no other hazards are associated with this product.

Code Letter, hazard designation & symbol for Propidium Iodide:



Code Letter, hazard designation & symbol for Sodium Azide:



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- **Information pertaining to Sodium Azide.**
 - After inhalation: Remove to fresh air. If individual is not breathing, give artificial respiration and obtain medical attention.
 - After skin contact: Immediately wash with copious amounts of water while removing contaminated clothing.
 - After eye contact: Rinse opened eye for 15 minutes under running water and seek medical advice.
 - After swallowing: Wash out mouth with water and seek medical advice immediately showing the container or label of the product.
- **Information pertaining to Propidium Iodide.**
 - After skin contact: Immediately wash with copious amounts of water while removing contaminated clothing.
 - After eye contact: Rinse opened eye for 15 minutes under running water and seek medical advice.
 - After swallowing: Wash out mouth with water and seek medical advice immediately showing the container or label of the product.

5. FIRE FIGHTING MEASURES

Extinguishing media:	<ul style="list-style-type: none"> • Water spray • Carbon dioxide, dry chemical powder or appropriate foam
Special firefighting procedures:	<ul style="list-style-type: none"> • Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Unusual fire and explosions hazards:	<ul style="list-style-type: none"> • Sodium azide upon thermal decomposition may emit toxic gases, including nitrogen oxides. However, due to the composition and volume of this product, combustion products generated from it are not expected to present a significant hazard.

6. ACCIDENTAL RELEASE MEASURES


- Wear protective equipment.
- Absorb with liquid-binding material and placed in closed containers for disposal. Avoid generation of aerosols during clean up.
- Ventilate area and wash spill site after material pickup is complete.


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7. HANDLING AND STORAGE

<p>7.1 Sodium Azide</p> <p>7.1.1 Handling precautions</p> <ul style="list-style-type: none"> Avoid inhaling, ingestion and contact with eyes and skin. <p>7.1.2 Storage:</p> <ul style="list-style-type: none"> Requirements to be met by storerooms and receptacles: No special requirements Information about storage in one common storage facility: Do not store together with oxidizing and acidic materials as well as heavy-metal compounds. Further information about storage conditions: None <p>7.2 Propidium Iodide:</p> <p>7.2.1 Handling precautions.</p> <ul style="list-style-type: none"> Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. <p>7.2.2 Storage:</p> <p>Store container at 2-8°. Protect from the light.</p>
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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION


<p>Components with limit values that require monitoring at the workplace:</p>	<p>The product does not contain any relevant quantities of material with critical values that have to be monitored at the workplace.</p>
<p>Engineering controls: Use in well ventilated area.</p>	
<p>Respiratory protection: Not required.</p>	
<p>Eye protection: Safety glasses</p>	
<p>Body protection: Protective work clothing; impervious gloves, such a latex or equivalent, should be worn to prevent skin contact</p>	

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 PROPIDIUM IODIDE	
Physical state:	Solid
Colour:	Red
Odour:	Odourless
Change in condition	Melting point: Not determined Boling point: Not determined
Flash point:	Not applicable
Danger of explosion:	Forms very sensitive explosive metallic compounds
Vapour pressure:	Not available
Density:	Not determined
Solubility in water:	Soluble
pH:	Not determined

9.2 Sodium Azide	
Physical state:	Solid, crystalline
Colour:	White
Odour:	Odourless
Change in condition	Melting point: Not determined Boling point: Not determined
Flash point:	Not applicable
Danger of explosion:	Forms very sensitive explosive metallic compounds
Vapour pressure:	Not available
Density:	Not determined
Solubility in water:	Soluble
pH:	10 at 65 g/l at 25 °C

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10. STABILITY AND REACTIVITY

<p>Stability:</p> <p>Material to be avoid</p> <p>Dangerous decompositions products:</p> <p>Additional information:</p>	<p>Stable under normal temperatures and pressures</p> <ul style="list-style-type: none"> • Strong oxidizing agents • Metals and metallic compounds • Cyano compounds <p>Sodium azide forms explosive compounds with heavy metals. Repeated contact of low concentration of azide with lead and copper commonly found in plumbing drains may result in the build up of shock sensitive compounds.</p> <p>Nitrogen oxides (NOx)</p> <p>Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in metal drains.</p>
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11. TOXICOLOGICAL INFORMATION

Sodium Azide	
Acute toxicity for hazardous ingredients:	<ul style="list-style-type: none"> • Oral LD50 Rat: 27 mg/Kg <p>Although its concentration in this product is low, sodium azide is harmful if swallowed, inhaled or absorbed through</p>
Potential effects of chronic exposure:	<p>Prolonged or repeated exposure to sodium azide may result in pounding headaches, eye and nose irritation, low blood pressure, fatigue and dizziness.</p>

12. ECOLOGICAL INFORMATION


Propidium Iodide	
Potencial effects of acute exposure and repeated:	<p>It can cause irritation or burning of the skin and eyes on contact. The inhalation or ingestion of large volúmenes can cause burning of the mucous membrane, irritaciónen breathing.</p>
Potencial effects of chroninc exposure:	<p>Powerful mutagenic agent</p>



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Mitostep	
Carcinogenicity and Toxicity:	<p>None of the components are listed as carcinogens or as suspect carcinogens. Carcinogenicity - rat - Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors. Carcinogenicity - mouse - Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors. 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</p> <p>LD50: 14.5 g/kg, oral, rat; LD50: 8.2 g/kg, intraperitoneal, rat LD50 Oral - rat - 14,500 mg/kg LC50 Inhalation - rat - 4 h - 40250 ppm LD50 Dermal - rabbit - > 5,000 mg/r</p>
Potential effects of chronic exposure:	no data available
Germ cell mutagenicity	Genotoxicity in vitro - mouse - lymphocyte Cytogenetic analysis Genotoxicity in vitro - mouse - lymphocyte Mutation in mammalian somatic cells. Genotoxicity in vivo - rat - Intraperitoneal Cytogenetic analysis Genotoxicity in vivo - mouse - Intraperitoneal DNA damage
Reproductive toxicit	Reproductive toxicity - rat - Intraperitoneal Effects on Fertility: Abortion. Reproductive toxicity - rat - Intraperitoneal Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Reproductive toxicity - rat - Subcutaneous Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Reproductive toxicity - mouse - Oral Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system. Developmental Toxicity - mouse - Intraperitoneal Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.
Potential health effect	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation. Aggravated Medical Condition Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.
Signs and Symptoms of Exposure	Effects due to ingestion may include:, Nausea, Fatigue, Headache
Additional Information	RTECS: PV6210000

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12. ECOLOGICAL INFORMATION

Ecotoxicity: Toxic for fish and other water organism

13. DISPOSAL CONSIDERATIONS.

Recommendation:	<ul style="list-style-type: none"> Observe all state and local environmental regulations.
Uncleaned packagings:	<ul style="list-style-type: none"> Recommendation: Disposal must be according to state and local regulations. Recommended cleansing agent: Water, if necessary with cleansing agents.

14. TRANSPORT INFORMATION

RID /ADR: Non-hazardous for road transport.

IMDG: Non-hazardous for sea transport.

ICAO/IATA: Non-hazardous for air transport.

15. OTHER INFORMATION

The above information represents the best information currently available for us. However this reagent may present unknown hazards and should be used with caution. Independent professional opinions regarding the risk or exposure to this solution are the responsibility of the user.