	<b>MATERIAL SAFETY DATA SHEET</b>		
	<b>Referency MSDS-KMAPE</b>	<b>Revision Number</b> 1	<b>Last Revision date:</b> 30-06-17

**1. COMPANY AND PRODUCT IDENTIFICATION**

<b>Product Name:</b>	<b>MITOSTEP + ANNEXIN V AND 7-AAD APOPTOSIS DETECTION KIT</b>
<b>Manufacturer / Supplier:</b>	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 tech@immunostep.com
<b>Information relative to Technical Services:</b>	
<b>Emergency Information:</b>	+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.  
7- Aminoactinomycin D

**2.2. hazardous ingredients:**

COMPONENT	Num.- CAS	MOLECULAR WEIGHT	% w/v
7-AMINOACTINOMYCIN D (7-AAD)	7240-37-1	1270.43	<0,01
SODIUM AZIDE (NaN <sub>3</sub> )	26628-22-8	65.0099	>0,09
DiIC <sub>1</sub> (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, 7-AAD and DMSO. To the best of our knowledge, no other hazards are associated with this product.

**Code Letter, hazard designation & symbol for 7-aminoactinomycin D. (7-AAD) :**



**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 7-aminoactinomycin D.**
  - 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**

<b>Extinguishing media:</b>	<ul style="list-style-type: none"> <li>• Water spray</li> <li>• Carbon dioxide, dry chemical powder or appropriate foam</li> </ul>
<b>Special firefighting procedures:</b>	<ul style="list-style-type: none"> <li>• Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.</li> </ul>
<b>Unusual fire and explosions hazards:</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>

**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**

**7.1 Sodium Azide**

**7.1.1 Handling precautions**

- Avoid inhaling, ingestion and contact with eyes and skin.

**7.1.2 Storage:**

<ul style="list-style-type: none"> <li>Requirements to be met by storerooms and receptacles:</li> </ul>	No special requirements
<ul style="list-style-type: none"> <li>Information about storage in one common storage facility:</li> </ul>	Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.
<ul style="list-style-type: none"> <li>Further information about storage conditions:</li> </ul>	None

**7.2 7-aminoactinomycin D:**

**7.2.1 Handling precautions.**



- Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.


**7.2.2 Storage:**

Store container at 2-8°. Protect from the light.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**


<p><b>Components with limit values that require monitoring at the workplace:</b></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><b>Engineering controls:</b></p>	<p>Use in well ventilated area.</p>
<p><b>Respiratory protection:</b></p>	<p>Not required.</p>
<p><b>Eye protection:</b></p>	<p>Safety glasses</p>
<p><b>Body protection:</b></p>	<p>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

<b>9.1 7-aminoactinomycin D.</b>  <b>Physical state:</b>  <b>Colour:</b>  <b>Odour:</b>  <b>Change in condition</b>  <b>Flash point:</b>  <b>Danger of explosion:</b>  <b>Vapour pressure:</b>  <b>Density:</b>  <b>Solubility in water:</b>  <b>pH:</b>	liquid  pink  Odourless  Melting point: Not determined Boling point: Not determined  Not applicable  Forms very sensitive explosive metallic compounds  Not available  Not determined  Soluble  Not determined
<b>9.2 Sodium Azide</b>  <b>Physical state:</b>  <b>Colour:</b>  <b>Odour:</b>  <b>Change in condition</b>  <b>Flash point:</b>  <b>Danger of explosion:</b>  <b>Vapour pressure:</b>  <b>Density:</b>  <b>Solubility in water:</b>  <b>pH:</b>	Solid, crystalline  White  Odourless  Melting point: Not determined Boling point: Not determined  Not applicable  Forms very sensitive explosive metallic compounds  Not available  Not determined  Soluble  10 at 65 g/l at 25 °C

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## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal temperatures and pressures
<b>Material to be avoid</b>	<ul style="list-style-type: none"> <li>• Strong oxidizing agents</li> <li>• Metals and metallic compounds</li> <li>• Cyano compounds</li> </ul> <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>
<b>Dangerous decompositions products:</b>	Nitrogen oxides (NO <sub>x</sub> )
<b>Additional information:</b>	Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in metal drains.

## 11. TOXICOLOGICAL INFORMATION

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


7- Aminoactinomycin D	
<b>Potencial effects of acute exposure and repeated:</b>	<p>It can cause irritation or burning of the skin and eyes on contact. The inhalation or ingestion of large volumes can cause burning of the mucous membrane, irritation and breathing.</p>
<b>Potencial effects of chroninc exposure:</b>	<p>Have not been thoroughly investigated.</p>



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<b>Mitostep</b>	
<b>Carcinogenicity and Toxicity:</b>	<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 - &gt; 5,000 mg/r</p>
<b>Potential effects of chronic exposure:</b>	no data available
<b>Germ cell mutagenicity</b>	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
<b>Reproductive toxicit</b>	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.
<b>Potential health effect</b>	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.
<b>Signs and Symptoms of Exposure</b>	Effects due to ingestion may include; Nausea, Fatigue, Headache
<b>Additional Information</b>	RTECS: PV6210000

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**12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** Toxic for fish and other water organism

**13. DISPOSAL CONSIDERATIONS.**

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

**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.