

SECTION 1: Identification of the substance/mixture

1.1. product identifiers

Product Name: BUFFERS AND SOLUTIONS USED WITH IMMUNOLOGY PRODUCTS FOR FLOW CYTOMETRY.

REARCH No.: A registration number is not available for those substances as the substances, or its uses are exempted from registration. This MSDS include the following references:

REFERENCE	PRODUCT DESCRIPTION
7AAD	7AAD Solution (7 Aminoactinomycin D Staining solution)
PI	PI Solution (Propidium Iodide Staining solution)
PI/RNASE	PI/RNASE Solution
BB10X-50ML	Annexin V Binding Buffer (10X)
FCR	FcR blocking Reagent
IMS0514	Diluent Buffer (1X – Ready to Use)
RBC10X-50ML	RBC Lysis Solution 10X

1.2. relevant identified uses of the substance or mixture and uses advised against

Recommended use: Scientific and industrial laboratory use. For research use only. Not to be used for any other purpose, including without limitation, for human or animal diagnostic, therapeutic or commercial purposes.

1.3. Details of the suppliers of the Material Safety Data Sheet

IMMUNOSTEP, S.L.

Avd. Universidad de Coimbra, s/n.

Centro de Investigación del Cáncer (CIC)

Campus Miguel de Unamuno 37007 Salamanca-Spain

Tfn/Fax: +34 923294827

Information relative to Technical Services: <https://immunostep.com>

1.4. Emergency telephone number

+34917 68 98 00 // Instituto Nacional de Toxicología. Madrid

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product Description: Mixture

Classification according to EC 1272/2008 (CLP/GHS): Not classified as hazardous per EC 1272/2008 (CLP/GHS).

2.2. Label elements

REFERENCES
7AAD
PI
PI/RNASE
BB10X-50ML
FCR
IMS0514

According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

Not classified as hazardous per EC 1272/2008 (CLP/GHS), US-OSHA and GHS.

REFERENCE
RBC10X-50ML

- Hazard Symbol:



- Signal Word: Warning
- Hazard Statement:
 - H400 - Very toxic to aquatic life.
 - H411 - Toxic to aquatic life with long lasting effects.
- Precautionary Statements:
 - Prevention: P273 - Avoid release to the environment.
 - Response: P391 - Collect spillage.
 - Storage: Not applicable.
 - Disposal: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Other hazards which do not result in GHS classification: None.

2.3. Other hazards

Those products contain concentrations of azide below the hazardous level which with repeated contact with lead and copper commonly found in plumbing drains may result in the build up of shock sensitive compounds. Sodium azide forms explosive compounds with heavy metals.

SECTION 3: Composition/ information on ingredients

Mixtures			
Hazardous Ingredients		Hazard Classification of Pure Ingredients	
Chemical Name	% by w/W	EU 1272/2008 CLP/GHS	Note
Sodium Azide CAS 26628-22-8	<0.1	Acute Tox. Oral 2, H300 Aquatic Acute 1, H400 Aquatic Longterm 1, H410	2,8
Ammonium chloride CAS: 12125-02-9 For ref. RBC10X-50ML	< 10	Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	2,8
CMIT/MIT 3:1 CAS 55965-84-9 For ref. IMS0514	< 0.0014	Acute Tox. 3, H331; Acute Tox. 3; H311, Acute Tox. 3,H301; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410,	2,8

2 - Substance with Community workplace exposure limits

8 - Present at concentration below the cut-off limits.

SECTION 4: First aid measures

4.1. General information: Get medical attention if symptoms occur.

- **Ingestion:** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.
- **Inhalation:** If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration by trained personnel and obtain medical attention immediately.
- **Skin Contact:** Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.
- **Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.

4.2. Most important symptoms and effects, both acute and delayed:

No adverse symptoms or effects have been identified.

4.3. Indication of any immediate medical attention and special treatment needed:

No data available

SECTION 5: Firefighting measures

5.1. General Fire Hazards:

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.

5.2. Extinguishing Media In case of fire:

Use carbon dioxide (CO₂), dry chemical, water spray or appropriate foam. For large fires use fire-extinguishing media appropriate for surrounding materials.

5.3. Special hazards arising from the substance or mixture Special Fire and Explosion**Hazards:**

No special hazards determined. Fire or excessive heat may produce hazardous decomposition products.

5.4. Hazardous Combustion Products:

No combustion products posing significant hazards are expected from those products (an aqueous solution).

5.5. Advice for fire fighters (Protective Equipment):

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces.

5.6. Additional information:

No data available.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures:**

Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.

6.2. Methods and material for containment and cleaning up:

Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams.

6.3. Environmental Precautions:

Do not allow the undiluted product to enter sewers/surface or ground water. As a precautionary measure, treat spilled material with a 1:10 bleach/water solution. Absorb liquid and place in container suitable for disposal. Avoid generation of aerosols during clean up. Dispose of contents/container in accordance with local regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Use personal protective equipment as required. Universal precautions should be followed when using those products. Those products should be handled as though capable of transmitting infectious diseases. Universal precautions should be followed when using those products.

7.2. Conditions for sale storage, including any incompatibilities

To maintain product quality, store according to the instructions in the product labeling. Store in a cool, dry place. Keep container closed.

7.3. Specific end use (s)

No further relevant information available.

SECTION 8: Exposure controls/ personal protection

8.1. Components with limit values that require monitoring at the workplace:

The products do not contain any relevant quantities of material with critical values that have to be monitored at the workplace.

8.2. Engineering Controls:

No special engineering controls are required. Use with good general ventilation.

- Eye Protection: Safety glasses should be worn to prevent eye contact. Refer to European Standard EN166 or appropriate government standards.
- Skin Protection: Wear protective clothing and impervious gloves, as appropriate. Wash hands after contact.
- Respiratory Protection: Under normal conditions, the use of those products should not require respiratory protection. Use in well ventilated area.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

- Physical state: Not applicable
- Color: No data available.
- Odor: Odorless

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: No data available.

Evaporation rate: No data available.

Flammability (Solid, Gas): Not applicable

Flammability Limits: Not applicable

Vapor pressure: No data available.

Vapor density: Not determined.

Decomposition temperature: Not applicable

Solubility (ies): No data available.

Viscosity: Not determined

Oxidizing Properties: Not applicable

Auto-ignition temperature: No data available.

9.2. Other information

Information regarding physical hazard classes: No further relevant information available.

Other safety characteristics: No further relevant information available.

SECTION 10: Stability and reactivity

10.1. Reactivity:

Stable under normal temperature conditions and recommended use. No further relevant information available.

10.2. Chemical Stability:

The product is stable in accordance with recommended storage conditions.

10.3. Possibility of hazardous reactions:

Sodium azide forms explosive compounds with heavy metals. Repeated contact of low concentrations of azide with lead and copper commonly found in plumbing drains may result in the build up of shock sensitive compounds.

10.4. Conditions to avoid:

Avoid exposure to high temperatures or direct sunlight. Avoid contact with incompatible materials.

10.5. Incompatible Materials:

Metals and metallic compounds.

10.6. Hazardous Decomposition Products:

No decomposition products posing significant hazards would be expected from those products (an aqueous solution).

SECTION 11: Toxicological information

11.1. Toxicity Data for Hazardous Ingredients

Sodium Azide

CAS 26628-22-8

Dermal LD50 Rabbit 20 mg/kg (NLM_HSDB); Inhalation LC50 Rat 0.054 - 0.52 mg/L 4 h (dust)(ECHA_API); Oral LD50 Rat 27 mg/kg (NZ_CCID)

Primary Routes of Exposure:

Common routes of entry include inhalation, ingestion and eye/skin contact. Specific paths of concern for potentially infectious materials are skin puncture, contact with broken skin, contact with mucous membranes and inhalation of aerosolized material.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure

- Potential delayed effects: Not available.
- Potential immediate effects: Not available.

Potential immediate effects

- Long term exposure: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects

- General: No known significant effects or critical hazards.
- Skin Corrosion/Irritation: No known significant effects or critical hazards.
- Serious eye damage/eye irritation: No known significant effects or critical hazards.
- Respiratory/skin sensitization: No known significant effects or critical hazards.
- Carcinogenicity: No ingredients in those products are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
- Germ cell mutagenicity: No data available.
- Reproductive Toxicity: No data available.
- Specific target organ toxicity – single exposure: Not classified based on available data.
- Specific target organ toxicity – repeated exposure: Not classified based on available data.
- Other Information: None known.

Numerical measures of toxicity:

Acute toxicity estimates: Not available.

CMIT/MIT 3:1

CAS 55965-84-9

Primary Routes of Exposure:

Common routes of entry include inhalation, ingestion and eye/skin contact. Specific paths of concern for potentially infectious materials are skin puncture, contact with broken skin, contact with mucous membranes and inhalation of aerosolized material.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure

- Potential delayed effects: Mixture. Not available.
- Potential immediate effects: Mixture. Not available.

Potential immediate effects

- Long term exposure: Not available.
- Potential delayed effects: Not available.

Acute toxicity estimates: Ingredients:

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2- methyl-2H - isothiazol-3-one [EC no. 220-239-6] (3:1)		
Oral	LD50	53 mg/kg (rat)

Potential chronic health effects

- General: No known significant effects or critical hazards.
- Skin Corrosion/Irritation: No known significant effects or critical hazards.
- Serious eye damage/eye irritation: No known significant effects or critical hazards.
- Respiratory/skin sensitization: No known significant effects or critical hazards.
- Carcinogenicity: No ingredients in those products are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
- Germ cell mutagenicity: No data available.
- Reproductive Toxicity: No data available.
- Specific target organ toxicity – single exposure: Not classified based on available data.
- Specific target organ toxicity – repeated exposure: Not classified based on available data.
- Other Information: None known.

Ammonium Chloride

CAS: 12125-02-9: LD50 Oral Rat 1650 mg/kg

Primary Routes of Exposure:

Common routes of entry include inhalation, ingestion and eye/skin contact. Specific paths of concern for potentially infectious materials are skin puncture, contact with broken skin, contact with mucous membranes and inhalation of aerosolized material.

Short term exposure

- Potential delayed effects: Not available.
- Potential immediate effects: Not available.

Potential immediate effects

- Long term exposure: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects

- **General:** No known significant effects or critical hazards.
- **Skin Corrosion/Irritation:** No known significant effects or critical hazards.
- **Serious eye damage/eye irritation:** Eyes - Severe irritant Rabbit – 100 milligrams
- **Respiratory/skin sensitization:** No known significant effects or critical hazards.
- **Carcinogenicity:** No ingredients in those products are listed as carcinogens
- **Germ cell mutagenicity:** No data available.
- **Reproductive Toxicity:** No data available.
- **Specific target organ toxicity – single exposure:** Not classified based on available data.
- **Specific target organ toxicity – repeated exposure:** Not classified based on available data.
- **Other Information:** None known.

11.2. Information on other hazards

Endocrine disrupting properties

Those products do not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

SECTION 12: Ecological information**12.1. Hazards to the aquatic environment:**

Sodium Azide: LC50 96 h Oncorhynchus mykiss: 0.8 mg/L; LC50 96 h Lepomis macrochirus: 0.7 mg/L; LC50 96 h Pimephales promelas: 5.46 mg/L [flow-through]

12.2. Persistence and Degradability:

Expected to be readily biodegradable

12.3. Bioaccumulative potential:

No data available

12.4. Mobility in soil:

No data available

12.5. Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

12.6. Other adverse effects:

The product is not expected to be hazardous to the environment.

SECTION 13: Disposal considerations**13.1. General information:**

Chemical residues and remains should be routinely handled as special waste. Must be specially treated adhering to official regulations. This material must be disposed in accordance with all local, state and provincial regulations. Do not allow product to reach sewage system.

13.2. Uncleaned packaging:

Disposal must be according to state and local regulations.

Recommended cleaning agent: Water, if necessary, with cleaning agents.

SECTION 14: Transport information

Transportation of those products is not regulated under ICAO, IATA DGR, IMDG, US DOT, European ADR and RID or Canadian TDG.

- Non-hazardous for road transport.
- Non-hazardous for sea transport.
- Non-hazardous for air transport.

SECTION 15: Regulatory information

EU Regulations. This MSDS complies with EC Regulations 1907/2006 (REACH) and amendments.

REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.

Regulation (EU) 2019/1148. No ingredients listed.

SECTION 16: 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.

CHANGE REVISION CONTROL

Change	Version	Date of revision
Document emission	1	17-10-2023
Update CMIT/MIT acute toxicity estimates, remove Ethanediol.	2	12-09-2025