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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

KIT

Date of Issue: 28-02-2008 ***Updated: 29-07-2025***

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **C5a** [I-125] RIA KIT
Product code: RK-520
Kit components: **Tracer**
Calibrators
Antiserum
Second antibody separation reagent
Assay buffer
Precipitation buffer

1.2 Relevant identified uses of the substance or mixture and uses advised against
Product use
Application of the substance/preparation: For In-vitro research test KIT

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number
Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

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2. Transport information

According to ADR and IATA (Chapter 10.3.1) regulations, shipment below the exemption quantity (1 MBq for Iodine 125) are considered as not dangerous goods. If the shipment exceed this quantity, please refer to the information given below:

Shipping information	IATA	IMDG	US DOT	European ADR	Canadian TDG
14.1 UN/ID number	2910	2910	2910	2910	2910
14.2 UN proper shipping name	Radioactive Material, excepted package-limited quantity of material				
14.3 Transport hazardclass(es)	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material
Subsidiary risk	None	None	None	None	None
Classification code	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4 Packing group					
Special provisions	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Additional information					
IATA ERG code	7L	Not applicable	Not applicable	Not applicable	Not applicable
EmS	Not applicable	F-I, S-S	Not applicable	Not applicable	Not applicable
NAERG code	Not applicable	Not applicable	161	Not applicable	161
14.5 Environmental hazards					
Marine pollutant	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.6 Special precautions for user	No special precautions for users are required.				

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Tracer

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Tracer**
Product code: Component of RK-520
Product formal name: Research reagent

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
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1.4 Emergency telephone number

Information in case of emergency: Health Toxicological Information Service
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+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture

Product description: In vitro research reagent; Clear, Liquid, Odorless

Classification according to Regulation (EC) No 1272/2008 [CLP]

Not classified as hazardous per EC 1272/2008 [CLP].

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Not classified as hazardous per EC 1272/2008 [CLP].

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2.3 Other hazards

Additional information:

Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

Sodium azide: This product contains concentrations of sodium 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.

Radioactive component - Iodine 125: Iodine-125 is a gamma-rays and X-rays emitter. Radiation can be protected by 1mm of lead. Half-life: 60.2 days.

See Section 11 Toxicological Information for more detailed health information.

3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

<table>
<tr><td>International chemical identification</td><td colspan="2">CAS #</td><td colspan="3">EC no</td></tr>
<tr><td>Sodium azide</td><td colspan="2">26628-22-8</td><td colspan="3">247-852-1</td></tr>
<tr><td rowspan="7">(< 0.1 % by wt)</td><td colspan="2">Classification</td><td colspan="3">Labelling</td></tr>
<tr><td>Hazard class and Category Code(s)</td><td>Hazard statement Code(s)</td><td>Supplementary hazard statement Code(s)</td><td>Pictogram(s), signal word Code(s)</td><td></td></tr>
<tr><td>Acute tox. 2</td><td>H300</td><td rowspan="3">EUH 032</td><td rowspan="3">GHS05
GHS06
GHS09 Dgr</td><td rowspan="3"></td></tr>
<tr><td>Aquatic Acute 1</td><td>H400</td></tr>
<tr><td>Aquatic Chronic 1</td><td>H410</td></tr>
<tr><td colspan="2">Signal words</td><td colspan="3">Pictogram(s)</td></tr>
<tr><td colspan="2">Danger</td><td> 
Skull and crossbones</td><td> 
Environment</td><td> 
Corrosive to metals</td></tr>
</table>

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Hazard statements:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life
EUH032	Contact with acids liberates very toxic gas

Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 + P330	If swallowed immediately called a POISON CENTER or doctor/physician. Rinse mouth.
P302 + P352 + P310	If on skin gently wash with plenty of soap and water. Immediately called a POISON CENTER or doctor/physician.
P391	Collect spillage.
P501	Dispose of contents/container as waste: in an approved waste.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air. If breath laboured, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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

5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special fire and explosion hazards: No special hazards determined.

Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

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5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: No further relevant information available.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions
Wear protective gloves, protective clothing and eye/face protection.
6.2 Environmental Precautions
Contain spill to prevent migration. Place absorbed material in container suitable for disposal. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of all waste material in accordance with local and facility guidelines.
6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: Absorb liquid and place in container suitable for disposal. Avoid generation of aerosols during clean up. Comply with applicable waste disposal regulations.
Radioactive material is subject to the regulations of each country.
Dispose of all waste material in accordance with local guidelines.
6.4 Reference to other sections
Refer sections 8 and 13.

7. Handling and storage:

7.1 Precautions for safe handling: Wear suitable personal protective equipment. Avoid splashing. Use the reagent in accordance with relevant package insert. Avoid high temperature and freezing. Do not eat, drink, smoke or apply cosmetics in laboratory areas.

7.2 Conditions for safe storage, including any incompatibilities: Store product in accordance with the relevant package insert. Do not store together with ignitable and flammable substances.

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
Sodium Azide (CAS # 26628-22-8)
US OSHA: None established
ACGIH: 0.29 mg/m3 Ceiling (as Sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid vapor)
DFG MAK: 0.4 mg/m3 Peak (inhalable fraction); 0.2 mg/m3 TWA MAK (inhalable fraction)
Ireland: 0.1 mg/m3 TWA; 0.3 mg/m3 STEL; Potential for cutaneous absorption
IOELVs: Possibility of significant uptake through the skin; 0.1 mg/m3 TWA; 0.3 mg/m3 STEL
NIOSH: None established
Japan: None established

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8.2 Exposure controls

Engineering Controls	Place vial behind a metal shield, away from the user.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	clear
Colour	clear	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	7.3 – 7.5
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

9.2 Other information:

No further relevant information available.

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10. Stability and reactivity:

10.1 Reactivity: Sodium azide: Contact with acids liberates very toxic gas.

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. Do not allow the undiluted product to enter sewers/surface or ground water.

10.4 Conditions to avoid: Avoid contact with incompatible materials. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Aluminum, Heavy metals

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:

LD50 Oral - Rat - 27 mg/kg Remarks: (RTECS)
LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA) LD50 Dermal - Rabbit - 20 mg/kg Remarks: (RTECS)

Skin corrosion/irritation:

Skin - In vitro study Result: No skin irritation (OECD Test Guideline 439)

Serious eye damage/eye irritation:

Eyes - Bovine cornea Result: No eye irritation - 4 h (OECD Test Guideline 437)

Respiratory or skin sensitization:

Local lymph node assay (LLNA) – Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity:

Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activationMethod: OECD Test Guideline 473 Result: negative
Test Type: unscheduled DNA synthesis assay. Test system: Chinese hamster lung cells
Metabolic activation: without metabolic activation Method: OECD Test Guideline 482
Result: negative
Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells
Metabolic activation: without metabolic activation Method: OECD Test Guideline 479
Result: negative

Carcinogenicity: No data available
Reproductive toxicity: No data available
Specific target organ toxicity - single exposure: No data available
Specific target organ toxicity - repeated exposure:
Oral - May cause damage to organs through prolonged or repeated exposure – Brain
Aspiration hazard: No data available
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.

11.2 Information on other hazards
Endocrine disrupting properties:

Sodium azide (CAS # 26628-22-8):
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other information:
None.

12. Ecological information:

Ecotoxical effects: Sodium Azide is toxic for aquatic organisms.

12.1 Toxicity
Sodium azide (CAS # 26628-22-8):
Toxicity to fish: flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 2,75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to algae: static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l - 96 h (OECD Test Guideline 201)

12.2 Persistence and degradability
Sodium azide (CAS # 26628-22-8):
The methods for determining the biological degradability are not applicable to inorganic substances.

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.

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12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

13.Disposal considerations:

13.1 Waste treatment methods
Product Waste Disposal: Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.
Sodium azide preservative may form explosive compounds in metal drain lines.
See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).
To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.
Dispose of as potentially biohazardous waste and in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or and approved waste-disposal company for information.
Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information
Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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14.Transport information:

According to ADR and IATA (Chapter 10.3.1) regulations, shipment below the exemption quantity (1 MBq for Iodine 125) are considered as not dangerous goods. If the shipment exceed this quantity, please refer to the information given below:

Shipping information	IATA	IMDG	US DOT	European ADR	Canadian TDG
14.1 UN/ID number	2910	2910	2910	2910	2910
14.2 UN proper shipping name	Radioactive Material, excepted package-limited quantity of material				
14.3 Transport hazardclass(es)	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material	7 Radioactive Material
Subsidiary risk	None	None	None	None	None
Classification code	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4 Packing group					
Special provisions	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Additional information					
IATA ERG code	7L	Not applicable	Not applicable	Not applicable	Not applicable
EmS	Not applicable	F-I, S-S	Not applicable	Not applicable	Not applicable
NAERG code	Not applicable	Not applicable	161	Not applicable	161
14.5 Environmental hazards					
Marine pollutant	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.6 Special precautions for user	No special precautions for users are required.				

15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling: * **NaN_3**

** But as mentioned in the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.*

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Other information: Radioactive material in accordance with "A.R. of 28/02/1963 art. 31" and following, relating to the protection of the population and workers against the danger of ionising radiations.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other information:

Izotop safety rating: Flammability: 0
Health: 1
Reactivity with water: 0
Physical contact: 1

Code
0=None
1=Slight
2=Caution
3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006
Document version and issue/revision date: Revision Date (year/month/day) 2023/10/17
Description of hazard class and hazard statements from Section 3:
Aquatic Acute 1 - Aquatic Hazard Acute, Category 1
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Abbreviations and Acronyms:
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The Inter. Carriage Of Dangerous Goods By Road
CLP - Classification, Labeling and Packaging
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
TDG - Canadian Transportation Of Dangerous Goods Regulations.
US DOT - United States Department of Transportation
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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Information and recommendations:

- The information herein is believed to be correct as of the date hereof but is provided without warranty of any kind. The recipient of our products is responsible for observing any laws and guidelines.
- For in vitro diagnostics only.
- This radioactive product can be transferred to and used only by authorised persons; purchase, storage, use and exchange of radioactive products are subject to the legislation of the end-user's country.
- Do not smoke, drink, eat or apply cosmetics in the working area.
- Do not pipette by mouth.
- Use protective clothing and disposable gloves.
- All radioactive handling should be executed in a designated area, away from regular passage.
- A logbook for receipt and storage of radioactive materials must be kept in the lab.
- Laboratory equipment and glassware, which could be contaminated with radioactive substances, should be segregated to prevent cross contamination of different radioisotopes.
- Any radioactive spills must be cleaned immediately in accordance with the radio safety procedures.
- The radioactive waste must be disposed of following the local regulations and guidelines of the notified bodies holding jurisdiction over the laboratory.
- Adherence to the basic rules of the radiation safety provides adequate protection.

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Calibrators

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Calibrators**
Product code: Components of RK-520
Product formal name: Research reagent

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number

Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture

Product description: In vitro research reagent; Colorless; Liquid; Odorless
Classification according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.3 Other hazards

Additional information: Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

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Sodium azide: This product contains concentrations of sodium 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.

See Section 11 Toxicological Information for more detailed health information.

3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

International chemical identification	**CAS #**		**EC no**		
Sodium azide	26628-22-8		247-852-1		
(< 0.1 % by wt)	**Classification**		**Labelling**		
	Hazard class and Category Code(s)	*Hazard statement Code(s)*	*Supplementary hazard statement Code(s)*	*Pictogram(s), signal word Code(s)*	
	Acute tox. 2	H300	EUH 032	GHS05 GHS06 GHS09 Dgr	
	Aquatic Acute 1	H400			
	Aquatic Chronic 1	H410			
	Signal words		**Pictogram(s)**		
	Danger		 **Skull and crossbones**	 **Environment**	 **Corrosive to metals**

Hazard statements:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life
EUH032	Contact with acids liberates very toxic gas

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Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 + P330	If swallowed immediately called a POISON CENTER or doctor/physician. Rinse mouth.
P302 + P352 + P310	If on skin gently wash with plenty of soap and water. Immediately called a POISON CENTER or doctor/physician.
P391	Collect spillage.
P501	Dispose of contents/container as waste: in an approved waste.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air. If breath laboured, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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

5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special fire and explosion hazards: No special hazards determined.

Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

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5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: No further relevant information available.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions: No special precautions are necessary. Use good laboratory procedures.

6.2 Environmental Precautions
Contain spill to prevent migration. Place absorbed material in container suitable for disposal. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of all waste material in accordance with local and facility guidelines.

6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections
Refer sections 8 and 13.

7. Handling and storage:

7.1 Precautions for safe handling: No special precautions are necessary; use good laboratory procedures.

7.2 Conditions for safe storage, including any incompatibilities: Store at 2 to 8°C, as directed on the product label. To maintain product quality, store according to the instructions in the product labeling. Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
Sodium Azide (CAS # 26628-22-8)
US OSHA: None established
ACGIH: 0.29 mg/m3 Ceiling (as Sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid vapor)
DFG MAK: 0.4 mg/m3 Peak (inhalable fraction); 0.2 mg/m3 TWA MAK (inhalable fraction)
Ireland: 0.1 mg/m3 TWA; 0.3 mg/m3 STEL; Potential for cutaneous absorption
IOELVs: Possibility of significant uptake through the skin; 0.1 mg/m3 TWA; 0.3 mg/m3 STEL
NIOSH: None established
Japan: None established

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8.2 Exposure controls

Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	clear
Colour	clear	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	7.2 – 7.4
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

9.2 Other information:

No further relevant information available.

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10. Stability and reactivity:

10.1 Reactivity: Sodium azide: Contact with acids liberates very toxic gas.

10.2 Chemical Stability: This 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. Do not allow the undiluted product to enter sewers/surface or ground water.

10.4 Conditions to avoid: Avoid contact with incompatible materials. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Metals and metallic compounds.

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from these product (aqueous solutions).

11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:
LD50 Oral - Rat - 27 mg/kg Remarks: (RTECS)
LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA) LD50 Dermal - Rabbit - 20 mg/kg Remarks: (RTECS)

Skin corrosion/irritation:
Skin - In vitro study Result: No skin irritation (OECD Test Guideline 439)

Serious eye damage/eye irritation:
Eyes - Bovine cornea Result: No eye irritation - 4 h (OECD Test Guideline 437)

Respiratory or skin sensitization:
Local lymph node assay (LLNA) – Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activationMethod: OECD Test Guideline 473 Result: negative
Test Type: unscheduled DNA synthesis assay. Test system: Chinese hamster lung cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 482 Result: negative
Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 479 Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure:
Oral - May cause damage to organs through prolonged or repeated exposure – Brain

Aspiration hazard: No data available

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.

11.2 Information on other hazards
Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

Other information:
No further relevant information available.

12. Ecological information:

Ecotoxical effects: Sodium Azide (CAS # 26628-22-8) is toxic for aquatic organisms.

12.1 Toxicity
Toxicity to fish: flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 2,75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to algae: static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l - 96 h (OECD Test Guideline 201)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

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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 this product. PBT: Not applicable, vPvB: Not applicable.

12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

13.Disposal considerations:

13.1 Waste treatment methods
Product Waste Disposal: Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.
Sodium azide preservative may form explosive compounds in metal drain lines.
See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).
To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.
Dispose of as potentially biohazardous waste and in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or and approved waste-disposal company for information.
Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information
Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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14.Transport information:

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

14.1 UN/ID number: Not regulated for transportation
14.2 UN proper shipping name: Not regulated for transportation
14.3 Transport hazard class(es): Not regulated for transportation
14.4 Packing group: Not regulated for transportation
14.5 Environmental hazards: Not regulated for transportation
14.6 Special precautions for user: None
14.7 Maritime transport in bulk according to IMO instruments: Not applicable

15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling: *** NaN_3**

** But as mentioned in the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.*

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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16. Other information:

Izotop safety rating: Flammability: 0
Health: 1
Reactivity with water: 0
Physical contact: 1

Code
0=None
1=Slight
2=Caution
3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006
Document version and issue/revision date: Revision Date (year/month/day) 2025/07/29
Description of hazard class and hazard statements from Section 3:
Aquatic Acute 1 - Aquatic Hazard Acute, Category 1
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Abbreviations and Acronyms:
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CLP - Classification, Labeling and Packaging
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
TDG - Canadian Transportation Of Dangerous Goods Regulations.
US DOT - United States Department of Transportation
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Antiserum

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Antiserum**
Product code: Components of RK-520
Product formal name: Research reagents

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number

Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture

Product description: In vitro research reagent; Clear, Liquid, Odourless
Classification according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.3 Other hazards

Additional information: Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

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Sodium azide: This product contains concentrations of sodium 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.

Biologically derived materials: This product contains animal biologically derived materials and should be considered as potentially capable of transmitting infectious diseases.

See Section 11 Toxicological Information for more detailed health information.

3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

<table>
<tr><td>International chemical identification</td><td colspan="2">CAS #</td><td colspan="3">EC no</td></tr>
<tr><td>Sodium azide</td><td colspan="2">26628-22-8</td><td colspan="3">247-852-1</td></tr>
<tr><td rowspan="6">(< 0.1 % by wt)</td><td colspan="2">Classification</td><td colspan="3">Labelling</td></tr>
<tr><td>Hazard class and Category Code(s)</td><td>Hazard statement Code(s)</td><td>Supplementary hazard statement Code(s)</td><td>Pictogram(s), signal word Code(s)</td><td></td></tr>
<tr><td>Acute tox. 2</td><td>H300</td><td rowspan="3">EUH 032</td><td rowspan="3">GHS05
GHS06
GHS09 Dgr</td><td rowspan="3"></td></tr>
<tr><td>Aquatic Acute 1</td><td>H400</td></tr>
<tr><td>Aquatic Chronic 1</td><td>H410</td></tr>
<tr><td colspan="2">Signal words</td><td colspan="3">Pictogram(s)</td></tr>
<tr><td colspan="2">Danger</td><td> 
Skull and crossbones</td><td> 
Environment</td><td> 
Corrosive to metals</td></tr>
</table>

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Hazard statements:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life
EUH032	Contact with acids liberates very toxic gas

Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 + P330	If swallowed immediately called a POISON CENTER or doctor/physician. Rinse mouth.
P302 + P352 + P310	If on skin gently wash with plenty of soap and water. Immediately called a POISON CENTER or doctor/physician.
P391	Collect spillage.
P501	Dispose of contents/container as waste: in an approved waste.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air. If breath laboured, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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

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5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special fire and explosion hazards: No special hazards determined.
Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: No further relevant information available.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions: This product contains a material of animal origin. Observe general safety guidelines for protection during clean up procedures.
Wear protective gloves, protective clothing and eye/face protection.

6.2 Environmental Precautions
Contain spill to prevent migration. Place absorbed material in container suitable for disposal. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of all waste material in accordance with local and facility guidelines.

6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: 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 all waste material in accordance with local guidelines.

6.4 Reference to other sections
Refer sections 8 and 13.

7. Handling and storage:

7.1 Precautions for safe handling: This product should be handled as though capable of transmitting infectious diseases. Universal precautions should be followed when using this product. Wear suitable personal protective equipment. Avoid splashing. Use the reagent in accordance with relevant package insert. Avoid high temperature and freezing. Do not eat, drink, smoke or apply cosmetics in laboratory areas.

7.2 Conditions for safe storage, including any incompatibilities: Store at 2 to 8°C, as directed on the product label. To maintain product quality, store according to

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the instructions in the product labeling. Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
Sodium Azide (CAS # 26628-22-8)
US OSHA: None established
ACGIH: 0.29 mg/m3 Ceiling (as Sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid vapor)
DFG MAK: 0.4 mg/m3 Peak (inhalable fraction); 0.2 mg/m3 TWA MAK (inhalable fraction)
Ireland: 0.1 mg/m3 TWA; 0.3 mg/m3 STEL; Potential for cutaneous absorption
IOELVs: Possibility of significant uptake through the skin; 0.1 mg/m3 TWA; 0.3 mg/m3 STEL
NIOSH: None established
Japan: None established

8.2 Exposure controls

Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.

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9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	clear
Colour	clear	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	7.3 – 7.5
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

9.2 Other information:

No further relevant information available.

10. Stability and reactivity:

10.1 Reactivity: Sodium azide: Contact with acids liberates very toxic gas.

10.2 Chemical Stability: This 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. Do not allow the undiluted product to enter sewers/surface or ground water.

10.4 Conditions to avoid: Avoid contact with incompatible materials. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Metals and metallic compounds.

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from these product (aqueous solutions).

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11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:
LD50 Oral - Rat - 27 mg/kg Remarks: (RTECS)
LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA) LD50 Dermal - Rabbit - 20 mg/kg Remarks: (RTECS)

Skin corrosion/irritation:
Skin - In vitro study Result: No skin irritation (OECD Test Guideline 439)

Serious eye damage/eye irritation:
Eyes - Bovine cornea Result: No eye irritation - 4 h (OECD Test Guideline 437)

Respiratory or skin sensitization:
Local lymph node assay (LLNA) – Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activationMethod: OECD Test Guideline 473 Result: negative
Test Type: unscheduled DNA synthesis assay. Test system: Chinese hamster lung cells
Metabolic activation: without metabolic activation Method: OECD Test Guideline 482
Result: negative
Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells
Metabolic activation: without metabolic activation Method: OECD Test Guideline 479
Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure:
Oral - May cause damage to organs through prolonged or repeated exposure – Brain

Aspiration hazard: No data available

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.

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11.2 Information on other hazards
Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

Other information:
This product contains materials of animal origin and should be considered as potentially capable of transmitting infectious diseases.

12. Ecological information:

Ecotoxical effects: Sodium Azide (CAS # 26628-22-8) is toxic for aquatic organisms.

12.1 Toxicity
Toxicity to fish: flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 2,75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to algae: static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l - 96 h (OECD Test Guideline 201)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

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 this product. PBT: Not applicable, vPvB: Not applicable.

12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

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13.Disposal considerations:

13.1 Waste treatment methods

Product Waste Disposal: Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.
Sodium azide preservative may form explosive compounds in metal drain lines.
See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).
To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.
Dispose of as potentially biohazardous waste and in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or and approved waste-disposal company for information.
Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information

Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

14.Transport information:

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

14.1 UN/ID number: Not regulated for transportation
14.2 UN proper shipping name: Not regulated for transportation
14.3 Transport hazard class(es): Not regulated for transportation
14.4 Packing group: Not regulated for transportation
14.5 Environmental hazards: Not regulated for transportation
14.6 Special precautions for user: None
14.7 Maritime transport in bulk according to IMO instruments: Not applicable

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15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling: * NaN_3

** But as mentioned in the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.*

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other information:

Izotop safety rating:

Flammability: 0		Code
Health: 1		0=None
Reactivity with water: 0		1=Slight
		2=Caution
Physical contact: 1		3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006
Document version and issue/revision date: Revision Date (year/month/day) 2023/10/17
Description of hazard class and hazard statements from Section 3:
Aquatic Acute 1 - Aquatic Hazard Acute, Category 1
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

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Abbreviations and Acronyms:

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CLP - Classification, Labeling and Packaging
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
TDG - Canadian Transportation Of Dangerous Goods Regulations.
US DOT - United States Department of Transportation
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Second antibody separation reagent

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Second antibody separation reagent**
Product code: Components of RK-520
Product formal name: Research reagent

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number

Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture

Product description: In vitro research reagent; Colorless; Liquid; Odorless
Classification according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.3 Other hazards

Additional information: Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

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Sodium azide: This product contains concentrations of sodium 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.

See Section 11 Toxicological Information for more detailed health information.

3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

International chemical identification	**CAS #**		**EC no**		
Sodium azide	26628-22-8		247-852-1		
(< 0.1 % by wt)	**Classification**		**Labelling**		
	Hazard class and Category Code(s)	*Hazard statement Code(s)*	*Supplementary hazard statement Code(s)*	*Pictogram(s), signal word Code(s)*	
	Acute tox. 2	H300	EUH 032	GHS05 GHS06 GHS09 Dgr	
	Aquatic Acute 1	H400			
	Aquatic Chronic 1	H410			
	Signal words		**Pictogram(s)**		
	Danger		 **Skull and crossbones**	 **Environment**	 **Corrosive to metals**

Hazard statements:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life
EUH032	Contact with acids liberates very toxic gas

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Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 + P330	If swallowed immediately called a POISON CENTER or doctor/physician. Rinse mouth.
P302 + P352 + P310	If on skin gently wash with plenty of soap and water. Immediately called a POISON CENTER or doctor/physician.
P391	Collect spillage.
P501	Dispose of contents/container as waste: in an approved waste.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air. If breath laboured, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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

5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special fire and explosion hazards: No special hazards determined.

Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

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5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: No further relevant information available.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions: No special precautions are necessary. Use good laboratory procedures.

6.2 Environmental Precautions
Contain spill to prevent migration. Place absorbed material in container suitable for disposal. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of all waste material in accordance with local and facility guidelines.

6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections
Refer sections 8 and 13.

7. Handling and storage:

7.1 Precautions for safe handling: No special precautions are necessary; use good laboratory procedures.

7.2 Conditions for safe storage, including any incompatibilities: Store at 2 to 8°C, as directed on the product label. To maintain product quality, store according to the instructions in the product labeling. Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
Sodium Azide (CAS # 26628-22-8)
US OSHA: None established
ACGIH: 0.29 mg/m3 Ceiling (as Sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid vapor)
DFG MAK: 0.4 mg/m3 Peak (inhalable fraction); 0.2 mg/m3 TWA MAK (inhalable fraction)
Ireland: 0.1 mg/m3 TWA; 0.3 mg/m3 STEL; Potential for cutaneous absorption
IOELVs: Possibility of significant uptake through the skin; 0.1 mg/m3 TWA; 0.3 mg/m3 STEL
NIOSH: None established
Japan: None established

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8.2 Exposure controls

Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	turbid
Colour	clear	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	6.0 – 8.0
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

9.2 Other information:

No further relevant information available.

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10. Stability and reactivity:

10.1 Reactivity: Sodium azide: Contact with acids liberates very toxic gas.

10.2 Chemical Stability: This 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. Do not allow the undiluted product to enter sewers/surface or ground water.

10.4 Conditions to avoid: Avoid contact with incompatible materials. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Metals and metallic compounds.

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from these product (aqueous solutions).

11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:
LD50 Oral - Rat - 27 mg/kg Remarks: (RTECS)
LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA) LD50 Dermal - Rabbit - 20 mg/kg Remarks: (RTECS)

Skin corrosion/irritation:
Skin - In vitro study Result: No skin irritation (OECD Test Guideline 439)

Serious eye damage/eye irritation:
Eyes - Bovine cornea Result: No eye irritation - 4 h (OECD Test Guideline 437)

Respiratory or skin sensitization:
Local lymph node assay (LLNA) – Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activationMethod: OECD Test Guideline 473 Result: negative
Test Type: unscheduled DNA synthesis assay. Test system: Chinese hamster lung cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 482 Result: negative
Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 479 Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure:
Oral - May cause damage to organs through prolonged or repeated exposure – Brain

Aspiration hazard: No data available

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.

11.2 Information on other hazards
Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

Other information:
No further relevant information available.

12. Ecological information:

Ecotoxical effects: Sodium Azide (CAS # 26628-22-8) is toxic for aquatic organisms.

12.1 Toxicity
Toxicity to fish: flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 2,75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to algae: static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l - 96 h (OECD Test Guideline 201)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

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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 this product. PBT: Not applicable, vPvB: Not applicable.

12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

13.Disposal considerations:

13.1 Waste treatment methods
Product Waste Disposal: Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.
Sodium azide preservative may form explosive compounds in metal drain lines.
See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).
To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.
Dispose of as potentially biohazardous waste and in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or and approved waste-disposal company for information.
Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information
Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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14.Transport information:

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

14.1 UN/ID number: Not regulated for transportation
14.2 UN proper shipping name: Not regulated for transportation
14.3 Transport hazard class(es): Not regulated for transportation
14.4 Packing group: Not regulated for transportation
14.5 Environmental hazards: Not regulated for transportation
14.6 Special precautions for user: None
14.7 Maritime transport in bulk according to IMO instruments: Not applicable

15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling: *** NaN_3**

** But as mentioned in the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.*

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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16. Other information:

Izotop safety rating: Flammability: 0
Health: 1
Reactivity with water: 0
Physical contact: 1

Code
0=None
1=Slight
2=Caution
3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006
Document version and issue/revision date: Revision Date (year/month/day) 2025/07/29
Description of hazard class and hazard statements from Section 3:
Aquatic Acute 1 - Aquatic Hazard Acute, Category 1
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Abbreviations and Acronyms:
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CLP - Classification, Labeling and Packaging
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
TDG - Canadian Transportation Of Dangerous Goods Regulations.
US DOT - United States Department of Transportation
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Assay buffer

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Assay buffer**
Product code: Component of RK-520
Product formal name: Research reagent

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number

Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture

Product description: In vitro research reagent; Colorless; Liquid; Odorless
Classification according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]
Not classified as hazardous per EC 1272/2008 [CLP].

2.3 Other hazards

Additional information: Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

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Sodium azide: This product contains concentrations of sodium 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.

See Section 11 Toxicological Information for more detailed health information.

3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

International chemical identification	**CAS #**		**EC no**		
Sodium azide	26628-22-8		247-852-1		
(< 0.1 % by wt)	**Classification**		**Labelling**		
	Hazard class and Category Code(s)	*Hazard statement Code(s)*	*Supplementary hazard statement Code(s)*	*Pictogram(s), signal word Code(s)*	
	Acute tox. 2	H300	EUH 032	GHS05 GHS06 GHS09 Dgr	
	Aquatic Acute 1	H400			
	Aquatic Chronic 1	H410			
	Signal words		**Pictogram(s)**		
	Danger		 **Skull and crossbones**	 **Environment**	 **Corrosive to metals**

Hazard statements:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life
EUH032	Contact with acids liberates very toxic gas

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Precautionary statements:

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 + P330	If swallowed immediately called a POISON CENTER or doctor/physician. Rinse mouth.
P302 + P352 + P310	If on skin gently wash with plenty of soap and water. Immediately called a POISON CENTER or doctor/physician.
P391	Collect spillage.
P501	Dispose of contents/container as waste: in an approved waste.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air. If breath laboured, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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

5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special fire and explosion hazards: No special hazards determined.

Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: No further relevant information available.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions: No special precautions are necessary. Use good laboratory procedures.

6.2 Environmental Precautions
Contain spill to prevent migration. Place absorbed material in container suitable for disposal. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of all waste material in accordance with local and facility guidelines.

6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections
Refer sections 8 and 13.

7. Handling and storage:

7.1 Precautions for safe handling: No special precautions are necessary; use good laboratory procedures.

7.2 Conditions for safe storage, including any incompatibilities: Store at 2 to 8°C, as directed on the product label. To maintain product quality, store according to the instructions in the product labeling. Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
Sodium Azide (CAS # 26628-22-8)
US OSHA: None established
ACGIH: 0.29 mg/m3 Ceiling (as Sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid vapor)
DFG MAK: 0.4 mg/m3 Peak (inhalable fraction); 0.2 mg/m3 TWA MAK (inhalable fraction)
Ireland: 0.1 mg/m3 TWA; 0.3 mg/m3 STEL; Potential for cutaneous absorption
IOELVs: Possibility of significant uptake through the skin; 0.1 mg/m3 TWA; 0.3 mg/m3 STEL
NIOSH: None established
Japan: None established

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8.2 Exposure controls

Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	clear
Colour	clear	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	7.2 – 7.4
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

9.2 Other information:

No further relevant information available.

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10. Stability and reactivity:

10.1 Reactivity: Sodium azide: Contact with acids liberates very toxic gas.

10.2 Chemical Stability: This 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. Do not allow the undiluted product to enter sewers/surface or ground water.

10.4 Conditions to avoid: Avoid contact with incompatible materials. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Metals and metallic compounds.

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from these product (aqueous solutions).

11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:
LD50 Oral - Rat - 27 mg/kg Remarks: (RTECS)
LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA) LD50 Dermal - Rabbit - 20 mg/kg Remarks: (RTECS)

Skin corrosion/irritation:
Skin - In vitro study Result: No skin irritation (OECD Test Guideline 439)

Serious eye damage/eye irritation:
Eyes - Bovine cornea Result: No eye irritation - 4 h (OECD Test Guideline 437)

Respiratory or skin sensitization:
Local lymph node assay (LLNA) – Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activationMethod: OECD Test Guideline 473 Result: negative
Test Type: unscheduled DNA synthesis assay. Test system: Chinese hamster lung cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 482 Result: negative
Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 479 Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure:
Oral - May cause damage to organs through prolonged or repeated exposure – Brain

Aspiration hazard: No data available

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.

11.2 Information on other hazards
Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

Other information:
No further relevant information available.

12. Ecological information:

Ecotoxical effects: Sodium Azide (CAS # 26628-22-8) is toxic for aquatic organisms.

12.1 Toxicity
Toxicity to fish: flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 2,75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to algae: static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l - 96 h (OECD Test Guideline 201)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

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 this product. PBT: Not applicable, vPvB: Not applicable.

12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

13.Disposal considerations:

13.1 Waste treatment methods
Product Waste Disposal: Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.
Sodium azide preservative may form explosive compounds in metal drain lines.
See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).
To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.
Dispose of as potentially biohazardous waste and in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or and approved waste-disposal company for information.
Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information
Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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14.Transport information:

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

14.1 UN/ID number: Not regulated for transportation
14.2 UN proper shipping name: Not regulated for transportation
14.3 Transport hazard class(es): Not regulated for transportation
14.4 Packing group: Not regulated for transportation
14.5 Environmental hazards: Not regulated for transportation
14.6 Special precautions for user: None
14.7 Maritime transport in bulk according to IMO instruments: Not applicable

15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling: *** NaN_3**

** But as mentioned in the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.*

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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16. Other information:

Izotop safety rating: Flammability: 0
Health: 1
Reactivity with water: 0
Physical contact: 1

Code
0=None
1=Slight
2=Caution
3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006
Document version and issue/revision date: Revision Date (year/month/day) 2025/07/29
Description of hazard class and hazard statements from Section 3:
Aquatic Acute 1 - Aquatic Hazard Acute, Category 1
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Abbreviations and Acronyms:
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CLP - Classification, Labeling and Packaging
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
TDG - Canadian Transportation Of Dangerous Goods Regulations.
US DOT - United States Department of Transportation
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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MATERIAL SAFETY DATA SHEET

According to EC Directive 1907/2006/EC **[REACH]** and to Regulation (EC) No 1272/2008 **[CLP]**

Precipitating reagent

1. Identification of the substance/preparation and of the company

1.1 Product identifier:

Product name: **Precipitating reagent**
Product code: Component of RK-520
Product formal name: Research reagent

1.2 Relevant identified uses of the substance or mixture and uses advised against
Product use
Application of the substance/preparation: For In-vitro research test

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Institute of Isotopes Co., Ltd.
Konkoly-Thege Miklós út 29-33
H-1121 Budapest, Hungary
Phone number: (36-1) 391-0826
Fax number: (36-1) 392-2575, 395-9247

Further information available from: www.izotop.hu
Email address of the competent person: **immuno@izotop.hu**

1.4 Emergency telephone number
Information in case of emergency: Health Toxicological Information Service
+36 80 201 199 (0-24 hours, toll free - only from Hungary)
+36 1 476 6464 (0-24 hours, also from abroad)

2. Hazards identification:

2.1 Classification of the substance or mixture
Product description: In vitro research reagent; Yellow; Liquid; Odorless

Classification according to Regulation (EC) No 1272/2008 [CLP]

Skin irritation, (Category 2)	H315: Causes skin irritation.
Eye irritation, (Category 2)	H319: Causes serious eye irritation.
Specific target organ toxicity single exposure, (Category 3), Respiratory system	H335: May cause respiratory irritation.

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2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictograms:

GHS07

Signal words: Warning

Hazard statements:
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P264 - Do not breathe fume.

2.3 Other hazards

Additional information: Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

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3. Composition / Information on ingredients:

3.2 Mixtures

Hazardous ingredient(s):

International chemical identification	**CAS #**		**EC no**	
Ethacridine lactate salt monohydrate	6402-23-9		217-408-1	
(< 1.2 % by wt)	**Classification**		**Labelling**	
	Hazard class and Category Code(s)	*Hazard statement Code(s)*	*Supplementary hazard statement Code(s)*	*Pictogram(s), signal word Code(s)*
	Skin irritation 2	H315		GHS07
	Eye irritation 2	H319		
	STOT SE 3	H335		
	Signal words		**Pictogram(s)**	
	Warning		 Warning	

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First Aid:

4.1 Description of first aid measures

After inhalation: Remove victim to fresh air.

After eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Immediately call in ophthalmologist. Remove contact lenses.

After skin contact: In case of skin contact, remove any contaminated clothing. Wash affected area with plenty of soap and water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

After swallowing: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

General information: If ingested, or in case of feeling unwell, seek medical advice urgently.

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4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. Fire extinguishing measures:

5.1 Extinguishing media: In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture:
Carbon oxides, Nitrogen oxides (NOx) Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire.

Special fire and explosion hazards: No special hazards determined.
Hazardous combustion products: No combustion products posing significant hazards are expected from this product (an aqueous solution).

5.3 Advice for firefighters: Protective equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information: Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures:

6.1 Personal precaution, protective equipment and emergency procedures
Personal Precautions: Avoid inhalation of dusts. Avoid substance contact.
Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental Precautions
Contain spill to prevent migration. Do not let product enter drains.

6.3 Methods and material for containment and cleaning-up
Spill and Leak Procedures: Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see sections 13.

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7. Handling and storage:

7.1 Precautions for safe handling: For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities: Store at 2 to 8°C, as directed on the product label. To maintain product quality, store according to the instructions in the product labeling.

7.3 Specific end uses: No further relevant information available.

8. Exposure controls/personal protection:

8.1 Control parameters:
No workplace exposure limit control parameters set.

8.2 Exposure controls

Engineering Controls	Ensure there is sufficient ventilation of the area.
Eye Protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.
Skin Protection	Protective clothing.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Transparency**	clear
Colour	yellow	**Decomposition Temperature**	not applicable
Odour	odourless	**pH**	not determined
Freezing point	0 °C	**Kinematic viscosity**	not determined
Boiling point	100 °C	**Solubility in water**	complete
Flammability	not applicable	**Solubility in organic**	not determined
Lower and upper explosion limit	not applicable	**Partition coefficient n-octanol/water (log value)**	not applicable
Flash Point	not applicable	**Vapour pressure**	not applicable
Autoignition Temp.	not applicable	**Density and/or relative density**	1.00 @20°C

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9.2 Other information:
No further relevant information available.

10. Stability and reactivity:

10.1 Reactivity: Stable under recommended transport or storage conditions.

10.2 Chemical Stability: This product is stable in accordance with recommended storage conditions.

10.3 Possibility of hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

10.4 Conditions to avoid: Heat.

10.5 Incompatible materials: Strong oxidizing agents, Strong acids.

10.6 Hazardous decomposition products: No decomposition products posing significant hazards would be expected from these product (aqueous solutions).

11. Toxicological information:

11.1 Information on hazard classes

Toxicity data for hazardous ingredients - Sodium azide (CAS # 26628-22-8):

Acute toxicity:
Oral: No data available.
Dermal: No data available.
Inhalation: No data available.

Skin corrosion/irritation: Remarks: No data available.

Serious eye damage/eye irritation: Remarks: No data available.

Respiratory or skin sensitization: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

Specific target organ toxicity-single exposure: Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure: No data available.

Aspiration hazard: No data available.

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Primary routes of exposure:

Skin contact There may be irritation and redness at the site of contact.
Eye contact The eyes may water profusely. There may be irritation and redness.
Ingestion There may be soreness and redness of the mouth and throat.
Inhalation Exposure may cause coughing or wheezing. There may be irritation of the throat with a feeling of tightness in the chest.
Delayed / immediate effects Immediate effects can be expected after short-term exposure.

11.2 Information on other hazards
Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for health according to REACH Article 57(f).

Other information:
No further relevant information available.

12. Ecological information:

Ecotoxical effects

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

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 this product. PBT: Not applicable, vPvB: Not applicable.

12.6 Endocrine disrupting properties:
This product does not have substance(s) of endocrine disrupting properties for environment according to REACH Article 57(f).

12.7 Other adverse effects: No data available.

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13.Disposal considerations:

13.1 Waste treatment methods

Product Waste Disposal: Transfer to a suitable container and arrange for collection by specialised disposal company. The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Package disposal: Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional Information

No further relevant information available.

14.Transport information:

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

14.1 UN/ID number: Not regulated for transportation
14.2 UN proper shipping name: Not regulated for transportation
14.3 Transport hazard class(es): Not regulated for transportation
14.4 Packing group: Not regulated for transportation
14.5 Environmental hazards: Not regulated for transportation
14.6 Special precautions for user: None
14.7 Maritime transport in bulk according to IMO instruments: Not applicable

15. Regulatory information:

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU regulations: This SDS complies with EC Regulations 1907/2006 (REACH and amendments).

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: No data available.
Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: No data available.
Regulation (EC) 1005/2009 on substances that deplete the ozone layer: No data available.
Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: No data available.

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Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials. Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard-determining components of labelling:
In the REGULATION (EC) No 1272/2008 under point 1.5(a) there is no hazard labelling necessary as the total volume of the components of the KIT is under 125 ml.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other information:

Izotop safety rating:	Flammability: 0	Code
	Health: 1	0=None
	Reactivity with	1=Slight
	water: 0	2=Caution
	Physical contact: 1	3=Severe

Revision changes: Revised to include EC 2020/878 amendment to REACH EC 1907/2006

Document version and issue/revision date: Revision Date (year/month/day) 2025/07/29

Description of hazard class and hazard statements from Section 3:

Full text of H-Statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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Abbreviations and Acronyms:

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
ALARP As low as is reasonably practicable
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging Regulations
COSHH Control of Substances Hazardous to Health
EC Number European Community Number
EC50 Effective Concentration 50%
EILINCS European List of Notified Chemical Substances
EINECS European Inventory of Existing Commercial Chemical Substances
GHS Globally Harmonised System
HSE Health & Safety Executive UK
IATA International Air Transport Association
IM Intramuscular
IMDG The International Maritime Dangerous Goods Code
IP Intraperitoneal
IV Intravascular
LD50 Lethal Dose 50%
LOEC Lowest Observable Effective Concentration
LTEL Long Term Exposure Limit
NOEC No Observable Effective Concentration
OECD Organisation for Economic Cooperations and Development
PBT Persistent Bioaccumulative Toxic
PPE Personal Protective Equipment
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals
RID Regulations Concerning the International Carriage of Dangerous Goods by Rail
SC Subcutaneous
SDS Safety Data Sheet
STEL Short Term Exposure Limit
STOT Specific Target Organ Toxicity
VOC Volatile Organic Compounds
vPvB Very Persistent and Very Bioaccumulative

WEL Workplace Exposure Limit