

**SeramunBlau® automat fast**

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

Product name: SeramunBlau® automat fast  
Catalog number: S-027-#-TMB  
REACH Registration Number: A registration number is not available for this substance as the registration number or its use are exempted from registration according to Article 2 (7) Regulation (EC) No. 1907/2006 [REACH], the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

**Use of the substance/mixture**

Horseradish peroxidase (HRP) substrate solution for use in immunological in vitro detection systems.

**Uses advised against**

None identified.

**1.3. Details of the supplier of the safety data sheet**

Company name: Seramun Diagnostica GmbH  
Street: Sreenhagener Straße 1  
Place: D-15754 Heidesee  
Telephone: +49 33767 791-10  
Telefax: +49 33767 791-99  
e-mail: info@seramun.com

**1.4. Emergency telephone number:** +49 33767 791-10 Available only during office hours.

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Regulation (EC) No. 1272/2008**

**INFORMATION:** According to Regulation (EC) No. 1272/2008 [CLP], Article 1 (5) d), in vitro diagnostic medical devices (IVDs) within the meaning of Directive 98/79/EC are exempt from the labelling requirement.

Hazard categories:

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Causes serious eye irritation.

**2.2. Label elements**

**Regulation (EC) No. 1272/2008**

**Hazard components for labelling**

2-Pyrrolidone

**Pictograms:**



**Signal word:** Warning

**Hazard statements**

H319 Causes serious eye irritation.

**Precautionary statements**

P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

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### Special labelling of certain mixtures

EUH208 Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

### Labelling of packages where the contents do not exceed 125 ml

#### Pictograms:



Signal word: Warning

### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous components

| CAS No     | Chemical name  | Quantity         |
|------------|--|------------------|
|            | EC No  | Index No         |
|            |  | REACH No         |
|            | GHS Classification   |                  |
| 616-45-5   | 2-Pyrrolidone  | 10 - < 15 %      |
|            | 210-483-1  | 01-2119475471-37 |
|            | Eye Irrit. 2; H319   |                  |
| 872-50-4   | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone   | 0.1 - < 0.3 %    |
|            | 212-828-1  | 606-021-00-7     |
|            | Repr. 1B, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H360D H315 H319 H335   |                  |
| 55965-84-9 | reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)  | < 0.1 %          |
|            | 911-418-6  | 01-2120764691-48 |
|            | Acute Tox. 2, Acute Tox. 2, Acute Tox. 3, Skin Corr. 1C, Eye Dam. 1, Skin Sens. 1A, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H330 H310 H301 H314 H318 H317 H400 H410 EUH071 |                  |

Full text of H and EUH statements: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

When in doubt or if symptoms are observed, get medical advice.

#### After inhalation

Provide fresh air.

#### After contact with skin

If skin irritation occurs: Get medical advice/attention.

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water.

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

No information available.

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

Treat symptomatically.

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**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Suitable extinguishing media: Water mist, Water spray, Dry extinguishing powder, Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media**

None identified.

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. In case of fire can be released: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, Nitrogen oxides (NO<sub>x</sub>).

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Co-ordinate fire-fighting measures to the fire surroundings.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

No special measures are necessary.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Further information on handling**

Use only in accordance to the manual.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep cool. Protect from sunlight.

**Hints on joint storage**

Do not store together with: Oxidizing agent.

**Further information on storage conditions**

Observe directions on the label.

storage temperature of 2 °C - 8 °C.

**7.3. Specific end use(s)**

Use only in accordance to the manual.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits (EH40)

| CAS No   | Substance              | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|----------|------------------------|-----|-------------------|-----------|---------------|--------|
| 872-50-4 | 1-Methyl-2-pyrrolidone | 10  | 40                |           | TWA (8 h)     | WEL    |
|          |                        | 20  | 80                |           | STEL (15 min) | WEL    |

#### DNEL/DMEL values

| CAS No                   | Substance                                      | Exposure route | Effect   | Value                  |
|--------------------------|--|----------------|----------|------------------------|
| 872-50-4                 | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone |                |          |                        |
| Worker DNEL, long-term   |  | inhalation     | systemic | 14,4 mg/m <sup>3</sup> |
| Worker DNEL, long-term   |  | inhalation     | local    | 40,0 mg/m <sup>3</sup> |
| Worker DNEL, long-term   |  | dermal         | systemic | 4,8 mg/kg bw/day       |
| Consumer DNEL, long-term |  | inhalation     | systemic | 3,6 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term |  | inhalation     | local    | 4,5 mg/m <sup>3</sup>  |
| Consumer DNEL, long-term |  | dermal         | systemic | 2,5 mg/kg bw/day       |
| Consumer DNEL, long-term |  | oral           | systemic | 0,85 mg/kg bw/day      |

#### PNEC values

| CAS No                             | Substance                                      | Value       |
|------------------------------------|--|-------------|
| Environmental compartment          |  |             |
| 872-50-4                           | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone |             |
| Freshwater                         |  | 0,25 mg/l   |
| Freshwater (intermittent releases) |  | 5 mg/l      |
| Marine water                       |  | 0,025 mg/l  |
| Freshwater sediment                |  | 1,09 mg/kg  |
| Marine sediment                    |  | 0,109 mg/kg |

### 8.2. Exposure controls



#### Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

#### Eye/face protection

Wear eye protection.

#### Hand protection

Chemical protective gloves must meet the requirements of European standard EN 374. Observe the wear time limits as specified by the manufacturer.

Breakthrough time (maximum wearing time): 480 min.

Suitable material: Butyl caoutchouc (butyl rubber) >= 0.22 mm thickness

Following materials are unsuitable for protective gloves because of degradation, severe swelling or low permeation time: NR (natural rubber, natural latex), CR (polychloroprene, chloroprene rubber), NBR (Nitrile rubber), FKM (fluoro rubber), PVC (polyvinyl chloride).

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Take recovery periods for skin regeneration.

### Skin protection

Use of protective clothing. The type of personal protection equipment has to be chosen based on the concentration and amount of the dangerous substance at the workplace.

### Respiratory protection

Respiratory protection not required. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Use only respiratory protection equipment with CE-symbol including four digit test number.

### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                      |                          |
|----------------------|--------------------------|
| Physical state:      | liquid                   |
| Colour:              | colourless - pale yellow |
| Odour:               | characteristic           |
| pH-Value (at 25 °C): | 4.1-4.6                  |

### Changes in the physical state

|  |                |
|--|----------------|
| Melting point:                           | not determined |
| Initial boiling point and boiling range: | 100 °C         |
| Flash point:                             | not determined |

### Flammability

|        |                |
|--------|----------------|
| Solid: | not applicable |
| Gas:   | not applicable |

### Explosive properties

The product is not: Explosive.

|                         |                |
|-------------------------|----------------|
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |

### Auto-ignition temperature

|        |                |
|--------|----------------|
| Solid: | not applicable |
| Gas:   | not applicable |

Decomposition temperature: not determined

### Oxidizing properties

Not oxidising.

Vapour pressure: not determined

Density: 1.013 g/cm<sup>3</sup>

Water solubility: completely miscible

**Solubility in other solvents** not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

### 9.2. Other information

|                |                |
|----------------|----------------|
| Solid content: | not determined |
|----------------|----------------|

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material is considered to be non-reactive under normal use conditions.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

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No known hazardous reactions.

### 10.4. Conditions to avoid

Light-sensitive. Keep away from heat. Stable under recommended storage and handling conditions.

### 10.5. Incompatible materials

Avoid contact with strong oxidizing agents and metals.

### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

Based on available data, the classification criteria are not met.

| CAS No.    | Chemical name   |                 |         |        |          |
|------------|---|-----------------|---------|--------|----------|
|            | Exposure route  | Dose            | Species | Source | Method   |
| 872-50-4   | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone  |                 |         |        |          |
|            | oral  | LD50 4150 mg/kg | Rat     | IUCLID | OECD 401 |
|            | dermal  | LD50 8000 mg/kg | Rabbit  | IUCLID | OECD 402 |
|            | inhalation (4 h) aerosol  | LC50 >5,1 mg/l  | Rat     | IUCLID | OECD 403 |
| 55965-84-9 | reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) |                 |         |        |          |
|            | oral  | ATE 100 mg/kg   |         |        |          |
|            | dermal  | ATE 50 mg/kg    |         |        |          |
|            | inhalation vapour   | ATE 0,5 mg/l    |         |        |          |
|            | inhalation aerosol  | ATE 0,05 mg/l   |         |        |          |

#### Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### Sensitising effects

Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

#### Further information

May cause sensitization by inhalation.

## SECTION 12: Ecological information

### 12.1. Toxicity

The product is not: Ecotoxic.

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| CAS No   | Chemical name                                  |                    |           |                                |  |  |
|----------|--|--------------------|-----------|--------------------------------|--|--|
|          | Aquatic toxicity                               | Dose               | [h]   [d] | Species                        | Source                                   | Method   |
| 872-50-4 | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone |                    |           |                                |  |  |
|          | Acute fish toxicity                            | LC50 832 mg/l      | 96 h      | rainbow trout                  | IUCLID                                   | Static fish toxicity test according to BBA-bulletin No. 33, 2. edition, September 1975 |
|          | Acute algae toxicity                           | ErC50 mg/l 600,5   | 72 h      | green algae                    | ECHA                                     | DIN 38412 / part 9   |
|          | Acute crustacea toxicity                       | EC50 mg/l ca. 4897 | 48 h      | Daphnia magna                  | IUCLID                                   | DIN 38412 / part 11  |
|          | Algae toxicity                                 | NOEC mg/l 92,6     | 3 d       | green algae                    | ECHA                                     | DIN 38412 / part 9   |
|          | Crustacea toxicity                             | NOEC mg/l 21,5     | 21 d      | Daphnia magna (Big water flea) | ECHA                                     | OECD 211   |
|          | Acute bacteria toxicity                        | (100 mg/l)         | 0 h       | Activated sludge               | Actra hydrochim. hydrobiol. 9(5), 555-57 |  |

### 12.2. Persistence and degradability

Biodegradable.

| CAS No   | Chemical name                                  |       |    |        |
|----------|--|-------|----|--------|
|          | Method   | Value | d  | Source |
|          | Evaluation                                     |       |    |        |
| 872-50-4 | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone |       |    |        |
|          | OECD 301C                                      | 73 %  | 28 | MITI   |
|          | Does not bioaccumulate.                        |       |    |        |

### 12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

### Partition coefficient n-octanol/water

| CAS No   | Chemical name                                  | Log Pow |
|----------|--|---------|
| 872-50-4 | N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone | -0,46   |

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Other adverse effects

No information available.

### Further information

Do not allow to enter into soil/subsoil. There are no data available on the mixture itself.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal recommendations

Dispose of waste according to applicable legislation.

#### List of Wastes Code - residues/unused products

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

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**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

**Contaminated packaging**

Non-contaminated packages may be recycled.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone

Restrictions on use (REACH, annex XVII):

Entry 30: N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone



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Information according to 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

### National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

2 - obviously hazardous to water

Skin resorption/Sensitization:

Causes allergic hypersensitivity reactions.

### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### Abbreviations and acronyms

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

### Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

| Classification     | Classification procedure |
|--------------------|--------------------------|
| Eye Irrit. 2; H319 | Calculation method       |

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**Relevant H and EUH statements (number and full text)**

|        |   |
|--------|---|
| H301   | Toxic if swallowed.   |
| H310   | Fatal in contact with skin.   |
| H314   | Causes severe skin burns and eye damage.  |
| H315   | Causes skin irritation.   |
| H317   | May cause an allergic skin reaction.  |
| H318   | Causes serious eye damage.  |
| H319   | Causes serious eye irritation.  |
| H330   | Fatal if inhaled.   |
| H335   | May cause respiratory irritation.   |
| H360D  | May damage the unborn child.  |
| H400   | Very toxic to aquatic life.   |
| H410   | Very toxic to aquatic life with long lasting effects.   |
| EUH071 | Corrosive to the respiratory tract.   |
| EUH208 | Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction. |

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*