

## Safety Data Sheet

according to the European Parliament and Council Regulation (EC) No 1907/2006 (REACH), Article 31, Annex II

Date of issue: 21.5.2015

Date of review:

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Version: 1.0

Name of the mixture: Reagent for HIPPURATE test

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

### 1.1 Product identifier

Reagent for HIPPURATE test	
Pack Name	Reagent for HIP
Cat. No.	10003368
Reagent for HIP weight	2×0.9 g

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

The kit is an auxiliary colour-producing reagent for the diagnostic strips MIKRO-LA-TEST<sup>®</sup> HIPPURATEtest and for MIKRO-LA-TEST<sup>®</sup> kit STREPTOtest 16, intended for a test, detecting the sodium hippurate (HIP) hydrolysis.

### 1.3 Details of the supplier of the safety data sheet

Name of manufacturer: Erba Lachema s.r.o.  
 Place of business: Brno, Karásek 1d, postcode 621 00, CZ  
 ID no: 26918846  
 Phone: +420 517 077 111  
 E-mail: [msds@erbalachema.com](mailto:msds@erbalachema.com)

### 1.4 Emergency telephone number

#### Erba Lachema s.r.o.

Phone: +420 517 077 556 (*service only during business hours*)

**Toxicological Information Centre (TIS), Na Bojišti 1, 128 01 Prague 2**

Phone: +420 224 919 293 or +420 224 915 402 (*service available 24 hours a day*)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Reagent for HIP weight

#### Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302

Skin Irrit. 2 H315

Eye Irrit. 2 H319

STOT SE 3 H335

#### Classification according to 67/548/EEC or 1999/45/EC

Xn R22

Xi R36/37/38

For a full text of R-phrases and H-statements see Section 16.

### 2.2 Label elements

Reagent for HIP weight



Pictogram:

Signal word:

Warning

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Hazard-determining components of labelling:

Ninhydrine

Hazard statement(s):

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s):

P261 Avoid breathing dust/vapours/spray.

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.

### 2.3 Other hazards

Reagent for HIP weight is not classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Reagent for HIP weight contains following hazardous substances:

Substance name	Content (% of weight)	CAS number EC number Index number	Classification according to		
			67/548/EEC	1272/2008	
Ninhydrine	100	485-47-2 207-618-1 -	Xn; R22	Acute Tox. 4	H302
			Xi; R36/37/38	Skin Irrit. 2	H315
				Eye Irrit. 2	H319
				STOT SE 3	H335

For a full text of R-phrases and H-statements see Section 16.

### 3.2 Mixtures

The product is a substance.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

When working with the mixture, take care of personal hygiene and prevent contamination of work clothing and skin. If you have any doubts or when symptoms persist, seek medical attention.

#### Exposure by inhalation

Discontinue the exposure, remove casualty to fresh air, keep at rest and seek medical advice.

#### Exposure by contact with skin

Take off all contaminated clothing. After contact with skin, wash immediately with soap and water.

#### Exposure by contact with eyes

Rinse an open eye (hold eyelids with fingers) with plenty of water for about 15 minutes, transfer casualty to a specialist.

#### Exposure by ingestion

Rinse mouth with water, drink 1/2 l of lukewarm water, seek medical attention immediately, and do not induce vomiting.

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**4.2 Most important symptoms and effects, both acute and delayed**

Irritant effects.

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available.

**SECTION 5: Firefighting measures**

The mixture is not flammable. The measure should be adapted to burning substances in the surrounding area.

**5.1 Extinguishing media**

In case of fire, use water spray (fog), carbon dioxide or dry chemical powder.

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

Development of hazardous combustion gases or vapours possible in case of fire.

**5.3 Advice for firefighters**

Use self-contained breathing apparatus.

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

Use personal protective equipment, see Section 8. Observe the principles of work safety in chemical laboratories. Do not eat, drink or smoke.

**6.2 Environmental precautions**

Prevent fire extinguishing water from contaminating surface water or the ground water system. Do not let product enter drains.

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

Absorb spilled agent with a suitable inert material (sand, earth, vapex) and store contaminated material in containers for collection of hazardous waste. For waste disposal, see Section 13.

**6.4 Reference to other sections**

See section 7, 8 and 13.

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

Observe the principles of work in laboratory. Observe the normal operating procedures for handling chemical substances and mixtures. Do not eat, drink or smoke. Use personal protective equipment, see Section 8.

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

Store in dry and covered stores at a temperature between +2 °C and +25 °C.

**7.3 Specific end use(s)**

The kit is designed for *in vitro* diagnostic devices.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

**Control parameters** are not defined according to Government Decree No 361/2007 Coll.

**Exposure limit values in the workplace** are not defined according to Directive No 2006/15/EC.

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**Limit values for indicators of biological exposure tests** are not defined according to Decree No 432/2003 Coll.

### 8.2 Exposure controls

#### Appropriate engineering controls

Sufficient ventilation.

#### Personal protective equipment

a. Eye/face protection

Safety goggles.

b. Hand protection

Protective gloves - rubber, resistant to caustic substances.

c. Skin protection

Protective clothing.

d. Respiratory protection

Not required with adequate ventilation, otherwise breathing apparatus.

e. Thermal hazards

None known.

#### Environmental exposure controls

To eliminate the emergency conditions, have pre-prepared a decontamination mixture and appropriate collection vessels for reaction residues. Dispose of reaction residues and decontaminated mixtures as hazardous waste water in accordance with relevant legal regulations.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Reagent for HIP weight

- |   |                             |
|---|-----------------------------|
| a. Appearance .....                                   | Yellow solid substance      |
| b. Odour .....  | Information not available   |
| c. Odour threshold .....                              | Information not available   |
| d. pH (at 20 °C) .....                                | 5                           |
| e. Melting point/freezing point .....                 | 250-258                     |
| f. Initial boiling point and boiling range (°C) ..... | Information not available   |
| g. Flash point (°C) .....                             | Information not available   |
| h. Evaporation rate .....                             | Information not available   |
| i. Flammability (solid, gas) .....                    | Information not available   |
| j. Upper/lower flammability or explosive limits ..... | Information not available   |
| k. Vapour pressure (hPa) .....                        | Information not available   |
| l. Vapour density .....                               | Information not available   |
| m. Relative density (kg m <sup>-3</sup> ) .....       | Information not available   |
| n. Water solubility .....                             | 20 g/l at 20 °C             |
| o. Partition coefficient: n-octanol/water .....       | log POW: 0.67               |
| p. Autoignition temperature (°C) .....                | Information not available   |
| q. Decomposition temperature (°C) .....               | 250                         |
| r. Viscosity .....                                    | Information not available   |
| s. Explosive properties .....                         | Not classified as explosive |
| t. Oxidizing properties .....                         | None                        |

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**9.2 Other information**

None.

**SECTION 10: Stability and reactivity**

Under normal conditions of use and storage the mixture is stable.

**10.1 Reactivity**

When whirled up a dust explosion potential may generally be assumed.

**10.2 Chemical stability**

Decomposition on exposure to light.

**10.3 Possibility of hazardous reactions**

Reaction with strong oxidizing agents and strong acids.

**10.4 Conditions to avoid**

Strong heating.

**10.5 Incompatible materials**

strong oxidizing agents and acids.

**10.6 Hazardous decomposition products**

Carbon monoxide and carbon dioxide.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****a) Acute toxicity**

The mixture is harmful when ingested.

Rat oral LD <sub>50</sub> (mg·kg <sup>-1</sup> ).....	600
Rabbit dermal LD <sub>50</sub> (mg·kg <sup>-1</sup> ).....	not applicable
Rat inhalation LD <sub>50</sub> (mg·l <sup>-1</sup> ).....	not applicable
Rat inhalation TLS (g·kg <sup>-1</sup> ).....	not applicable

**b) Irritability**

Reagent for HIP weight causes irritation to skin, serious irritation to eyes and respiratory system.

**c) Corrosion**

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

**d) Sensitization**

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

**e) Repeated dose toxicity**

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

**f) Carcinogenicity**

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

**g) Mutagenicity**

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

**h) Reproductive toxicity**

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

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**SECTION 12: Ecological information****12.1 Toxicity**

The mixture is not classified as toxic to environmental.

**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**

The product does not have the properties of PBT and vPvB. Assessment based on the ingredients that do not have properties of PBT and vPvB.

**12.6 Other adverse effects**

There is no information about any special danger for environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Dispose of in compliance with applicable regulations for hazardous waste management. Do not drain into the wastewater. The mixture should be discarded as a laboratory waste. Incinerate residues of the mixture in a hazardous waste incinerator. Contaminated packaging must be treated as hazardous waste.

Waste code	15 01 10	packaging containing residues of or contaminated by dangerous substances
	16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

**SECTION 14: Transport information**

Not governed by regulations for transport of dangerous goods (ADR).

**14.1 UN number**

Not specified.

**14.2 UN proper shipping name**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.3 Transport hazard class(es)**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.4 Packing group**

ADR/RID: –

IMDG: –

ICAO/IATA: –

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**14.5 Environmental hazards**

The mixture is not hazardous to the environment during transport.

**14.6 Special precautions for user**

No data available.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not transported.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP).

**15.2 Chemical safety assessment**

Assessment was not carried out.

**SECTION 16: Other information****List of H, P-statements and R-phrases**

H-statements: H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

P-statements: P261 Avoid breathing vapours/spray.  
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.

R-phrases: R22 Harmful if swallowed.  
R36/37/38 Irritating to eyes, respiratory system and skin.

**Recommended restrictions on use**

This compound is designed for professional use. It should not be used for purposes other than those described in Section 1.2.

**Information about data sources used to compile the Safety Data Sheet**

Material Safety Data Sheets of raw material suppliers, ECHA (European Chemicals Agency), corporate documentation for products

*Declaration*

*The safety data sheet contains basic data corresponding to the present state of our knowledge and experience, in accordance with applicable regulations. The foregoing information was gathered with the utmost care, but that does not mean that it is complete and should be used as the only correct information. Erba Lachema s.r.o. is not responsible for any damages caused by improper use and handling of the mixture.*

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Name of the mixture: Reagent for ACETOIN test

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

### 1.1 Product identifier

Reagent for HIPPURATE test	
Pack Name	Reagent for HIP
Cat. No.	10003368
Reagent for HIP solvent	2×18 ml

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

The kit is an auxiliary colour-producing reagent for the diagnostic strips MIKRO-LA-TEST® HIPPURATEtest and for MIKRO-LA-TEST® kit STREPTOtest 16, intended for a test, detecting the sodium hippurate (HIP) hydrolysis.

### 1.3 Details of the supplier of the safety data sheet

Name of manufacturer: Erba Lachema s.r.o.  
 Place of business: Brno, Karásek 1d, postcode 621 00, CZ  
 ID no: 26918846  
 Phone: +420 517 077 111  
 E-mail: [msds@erbalachema.com](mailto:msds@erbalachema.com)

### 1.4 Emergency telephone number

#### Erba Lachema s.r.o.

Phone: +420 517 077 556 (*service only during business hours*)

Toxicological Information Centre (TIS), Na Bojišti 1, 128 01 Prague 2

Phone: +420 224 919 293 or +420 224 915 402 (*service available 24 hours a day*)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Reagent for HIP solvent

#### Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H225

Acute Tox. 4 H302

Skin Irrit. 2 H315

Eye Dam. 1 H318

STOT SE 3 H335

STOT SE 3 H336

#### Classification according to 67/548/EEC or 1999/45/EC

F R11

Xn R22

Xi R37/38-41

— R67

For a full text of R-phrases and H-statements see Section 16.



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Name of the mixture: Reagent for ACETOIN test

**2.2 Label elements**

Reagent for HIP solvent



Pictogram:

Signal word: Danger

Hazard-determining components of labelling:

Acetone, Butan-1-ol

Hazard statement(s):

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H336 May cause drowsiness and dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statement(s):

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor.

**2.3 Other hazards**

Mixture or components are not classified as PBT or vPvB.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

The product is a mixture.

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### 3.2 Mixtures

Reagent for HIP solvent contains following hazardous substances:

Substance name	Content (% of weight)	CAS number EC number Index number	Classification according to		
			67/548/EEC	1272/2008	
Acetone*	50	67-64-1	F; R11	Flam. Liq. 2	H225
		200-662-2	Xi; R36	Eye Irrit. 2	H319
		606-001-00-8	R66	STOT SE 3	H336
			R67		
Butan-1-ol*	50	71-36-3	R10	Flam. Liq. 3	H226
		200-751-6	Xn; R22	Acute Tox. 4	H302
		603-004-00-6	Xi; R37/38-41	Skin Irrit. 2	H315
			R67	Eye Dam. 1	H318
				STOT SE 3	H335
		STOT SE 3	H336		

\*) Substance with exposure limits (exposure limits are listed in Section 8.1)

For a full text of R-phrases and H-statements see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

When working with the mixture, take care of personal hygiene and prevent contamination of work clothing and skin. If you have any doubts or when symptoms persist, seek medical attention.

#### Exposure by inhalation

Discontinue the exposure, remove casualty to fresh air, keep at rest and seek medical advice.

#### Exposure by contact with skin

Take off all contaminated clothing. After contact with skin, wash immediately with soap and water.

#### Exposure by contact with eyes

Rinse an open eye (hold eyelids with fingers) with plenty of water for about 15 minutes, transfer casualty to a specialist.

#### Exposure by ingestion

Caution if victim vomits. Risk of aspiration and pulmonary failure. Call in physician.

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

Irritant effects, cough, depressed respiration, shortness of breath, drowsiness, dizziness, narcosis, inebriation, nausea, vomiting, cardiovascular disorders, CNS disorder, stomach and intestinal disorders, headache, salivation, coma.

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

No data available.

## SECTION 5: Firefighting measures

The mixture is flammable.

### 5.1 Extinguishing media

Dry powder, CO<sub>2</sub>, foam.

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### 5.2 Special hazards arising from the substance or mixture

Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Prevent fire extinguishing water from contaminating surface water or ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Isolate and mark the spill site, order all the people out of the place, who do not participate in the rescue work. Remove all possible sources of ignition, turn off vehicle engines, do not smoke and avoid open flames, use non-sparking tools and lamps. Use all recommended personal protective equipment during rescue work.

### 6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

### 6.3 Methods and material for containment and cleaning up

Absorb spilled agent with a suitable inert material (sand, earth, vapex) and store contaminated material in containers for collection of hazardous waste. For waste disposal, see Section 13.

### 6.4 Reference to other sections

See section 7, 8 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Observe the principles of work in laboratory. Observe the normal operating procedures for handling chemical substances and mixtures. Do not eat, drink or smoke. Use personal protective equipment, see Section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in dry and covered stores at a temperature between +2 °C and +25 °C.

### 7.3 Specific end use(s)

The kit is designed for *in vitro* diagnostic devices.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Control parameters of the mixture components according to Government Decree No 361/2007 Coll.

CAS	Substance name	PEL	NPK-P	Note	Conversion factor for ppm
		mg/m <sup>3</sup>	mg/m <sup>3</sup>		
67-64-1	Acetone	800	1500	I	0.421
71-36-3	Butan-1-ol	300	600	I	0.330

PEL - Permissible exposure limits; NPK-P - the maximum permissible concentration; D - a significant penetration of the substance through the skin or a strong irritating effect on the skin during exposure; S - the substance has a sensitizing effect; P - serious late effects of the substance cannot be excluded; I - causes irritation of mucous membranes (eyes, respiratory system), resp. skin. \* - the physico-chemical properties (e.g. explosiveness) are taken into account for NPK-P.

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**Exposure limit values in the workplace** according to Directive No 2006/15/EC.

CAS	Substance name	Limit values				Note
		8 hrs		Short term		
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
67-64-1	Acetone	1210	500	–	–	–

*The note "skin" attached to the exposure limit values in the workplace indicates the possibility of a serious penetration through the skin.*

**Limit values for indicators of biological exposure tests** are not defined according to Decree No 432/2003 Coll.

## 8.2 Exposure controls

### Appropriate engineering controls

Sufficient ventilation.

### Personal protective equipment

a. Eye/face protection

Safety goggles.

b. Hand protection

Protective gloves - rubber, resistant to caustic substances.

c. Skin protection

Protective clothing.

d. Respiratory protection

Not required with adequate ventilation, otherwise breathing apparatus.

e. Thermal hazards

Observe the regulations for handlings flammable liquids.

### Environmental exposure controls

To eliminate the emergency conditions, have pre-prepared a decontamination mixture and appropriate collection vessels for reaction residues. Dispose of reaction residues and decontaminated mixtures as hazardous waste water in accordance with relevant legal regulations.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Reagent for HIP solvent

- Appearance ..... Clear colourless liquid
- Odour ..... Ethanol-like
- Odour threshold ..... Information not available
- pH (at 20 °C) ..... Information not available
- Melting point/freezing point ..... Information not available
- Initial boiling point and boiling range (°C) ..... Information not available
- Flash point (°C) ..... Information not available
- Evaporation rate ..... Information not available
- Flammability (solid, gas) ..... Highly flammable substance
- Upper/lower flammability or explosive limits ..... Information not available
- Vapour pressure (hPa) ..... Information not available
- Vapour density ..... Information not available
- Relative density (kg m<sup>-3</sup>) ..... 800
- Water solubility ..... Information not available

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Name of the mixture: Reagent for ACETOIN test

- o. Partition coefficient: n-octanol/water ..... Information not available
- p. Autoignition temperature (°C)..... Information not available
- q. Decomposition temperature (°C)..... Information not available
- r. Viscosity ..... Information not available
- s. Explosive properties ..... Not explosive
- t. Oxidizing properties ..... None

### 9.2 Other information

None.

## SECTION 10: Stability and reactivity

Under normal conditions of use and storage the mixture is stable.

### 10.1 Reactivity

Vapour/air mixtures are explosive at intense warming.

### 10.2 Chemical stability

The mixture is stable at normal temperature and pressure.

### 10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases with chromium (VI) oxide, strong oxidizing agents, strong reducing agents, chromosulfuric acid, fluorine and nitric acid.

Risk of explosion with chloroform, hydrogen peroxide, halogen oxides and organic nitro compounds.

Exothermic reaction with alkali metals, alkalit earth metals, aluminium, strong reducing agents, acid chlorides, bromine, alkali hydroxides and sulphur dichloride.

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

Rubber, various plastics.

### 10.6 Hazardous decomposition products

No dangerous decomposition products known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### a) Acute toxicity

The mixture is harmful when ingested.

Acetone (100 %)

Rat oral LD<sub>50</sub> (mg·kg<sup>-1</sup>).....5 800

Rabbit dermal LD<sub>50</sub> (mg·kg<sup>-1</sup>)..... 20 000

Rat inhalation LD<sub>50</sub> (mg·l<sup>-1</sup>)..... 76

Rat inhalation TLS (g·kg<sup>-1</sup>)..... not applicable

Butan-1-ol (100 %)

Rat oral LD<sub>50</sub> (mg·kg<sup>-1</sup>).....790

Rabbit dermal LD<sub>50</sub> (mg·kg<sup>-1</sup>)..... 3 400

Rat inhalation LD<sub>50</sub> (mg·l<sup>-1</sup>)..... 18

Rat inhalation TLS (g·kg<sup>-1</sup>)..... not applicable

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**b) Irritability**

Reagent causes skin and respiratory irritation. Repeated exposure may cause skin dryness or cracking.

**c) Corrosion**

Reagent causes serious eye damage.

**d) Sensitization**

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

**e) Repeated dose toxicity**

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

**f) Carcinogenicity**

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

**g) Mutagenicity**

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

**h) Reproductive toxicity**

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

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**SECTION 12: Ecological information****12.1 Toxicity**

The mixture is not classified as toxic to environmental.

**12.2 Persistence and degradability**

Biodegradable.

**12.3 Bioaccumulative potential**

The product does not have bioaccumulative potential.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

The product does not have the properties of PBT and vPvB. Assessment based on the ingredients that do not have properties of PBT and vPvB.

**12.6 Other adverse effects**

There is no information about any special danger for environment.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Dispose of in compliance with applicable regulations for hazardous waste management. Do not drain into the wastewater. The mixture should be discarded as a laboratory waste. Incinerate residues of the mixture in a hazardous waste incinerator. Contaminated packaging must be treated as hazardous waste.

Waste code 07 07 04 Other organic solvents, washing liquids and mother liquors.

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**SECTION 14: Transport information**

Not governed by regulations for transport of dangerous goods (ADR).

**14.1 UN number**

Not specified.

**14.2 UN proper shipping name**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.3 Transport hazard class(es)**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.4 Packing group**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.5 Environmental hazards**

The mixture is not hazardous to the environment during transport.

**14.6 Special precautions for user**

No data available.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not transported.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP).

**15.2 Chemical safety assessment**

Assessment was not carried out.

**SECTION 16: Other information****List of H, P-statements and R-phrases**

H-statements: H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 Repeated exposure may cause skin dryness or cracking.  
EUH066 May cause drowsiness or dizziness.

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P-statements: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/protective clothing/eye protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor.

R-phrases: R10 Flammable.  
R11 Highly flammable.  
R22 Harmful if swallowed.  
R36 Irritating to eyes.  
R37/38 Irritating to respiratory system and skin.  
R41 Risk of serious damage to eyes.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

**Recommended restrictions on use**

This compound is designed for professional use. It should not be used for purposes other than those described in Section 1.2.

**Information about data sources used to compile the Safety Data Sheet**

Material Safety Data Sheets of raw material suppliers, ECHA (European Chemicals Agency), corporate documentation for products

*Declaration*

*The safety data sheet contains basic data corresponding to the present state of our knowledge and experience, in accordance with applicable regulations. The foregoing information was gathered with the utmost care, but that does not mean that it is complete and should be used as the only correct information. Erba Lachema s.r.o. is not responsible for any damages caused by improper use and handling of the mixture.*



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Name of the mixture: Reagent for ACETOIN test

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

### 1.1 Product identifier

Reagent for HIPPURATE test	
Pack Name	Reagent for HIP
Cat. No.	10003368
Reagent for HIP	1×dropping bottle

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

The kit is an auxiliary colour-producing reagent for the diagnostic strips MIKRO-LA-TEST® HIPPURATEtest and for MIKRO-LA-TEST® kit STREPTOtest 16, intended for a test, detecting the sodium hippurate (HIP) hydrolysis.

### 1.3 Details of the supplier of the safety data sheet

Name of manufacturer: Erba Lachema s.r.o.  
 Place of business: Brno, Karásek 1d, postcode 621 00, CZ  
 ID no: 26918846  
 Phone: +420 517 077 111  
 E-mail: [msds@erbalachema.com](mailto:msds@erbalachema.com)

### 1.4 Emergency telephone number

#### Erba Lachema s.r.o.

Phone: +420 517 077 556 (*service only during business hours*)

Toxicological Information Centre (TIS), Na Bojišti 1, 128 01 Prague 2

Phone: +420 224 919 293 or +420 224 915 402 (*service available 24 hours a day*)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Reagent for HIP

#### Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3	H225
Acute Tox. 4	H302
Skin Irrit. 2	H315
Eye Dam. 1	H318
STOT SE 3	H335
STOT SE 3	H336

#### Classification according to 67/548/EEC or 1999/45/EC

F	R11
Xn	R22
Xi	R37/38-41
—	R67

For a full text of R-phrases and H-statements see Section 16.

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### 2.2 Label elements

Reagent for HIP



Pictogram:

Signal word: Danger

Hazard-determining components of labelling:

Ninhydrine, Acetone, Butan-1-ol

Hazard statement(s):

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H336 May cause drowsiness and dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statement(s):

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor.

### 2.3 Other hazards

Reagents are not classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

The product is a mixture.

### 3.2 Mixtures

Reagent for HIP contains following hazardous substances:

Substance name	Content (% of weight)	CAS number EC number Index number	Classification according to		
			67/548/EEC	1272/2008	
Ninhydrine	6	485-47-2 207-618-1 -	Xn; R22 Xi; R36/37/38	Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 STOT SE 3	H302 H315 H319 H335
Acetone*	47	67-64-1 200-662-2 606-001-00-8	F; R11 Xi; R36 R66 R67	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336

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<b>Butan-1-ol*</b>	47	71-36-3 200-751-6 603-004-00-6	R10 Xn; R22 Xi; R37/38-41 R67	Flam. Liq. 3 Acute Tox. 4 Skin Irrit. 2 Eye Dam. 1 STOT SE 3 STOT SE 3	H226 H302 H315 H318 H335 H336
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\*) Substance with exposure limits (exposure limits are listed in Section 8.1)

For a full text of R-phrases and H-statements see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

When working with the mixture, take care of personal hygiene and prevent contamination of work clothing and skin. If you have any doubts or when symptoms persist, seek medical attention.

#### Exposure by inhalation

Discontinue the exposure, remove casualty to fresh air, keep at rest and seek medical advice.

#### Exposure by contact with skin

Take off all contaminated clothing. After contact with skin, wash immediately with soap and water.

#### Exposure by contact with eyes

Rinse an open eye (hold eyelids with fingers) with plenty of water for about 15 minutes, transfer casualty to a specialist.

#### Exposure by ingestion

Caution if victim vomits. Risk of aspiration and pulmonary failure. Call in physician.

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

Irritant effects, cough, depressed respiration, shortness of breath, drowsiness, dizziness, narcosis, inebriation, nausea, vomiting, cardiovascular disorders, CNS disorder, stomach and intestinal disorders, headache, salivation, coma.

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

No data available.

## SECTION 5: Firefighting measures

The mixture is flammable.

### 5.1 Extinguishing media

Dry powder, CO<sub>2</sub>, foam.

### 5.2 Special hazards arising from the substance or mixture

Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Prevent fire extinguishing water from contaminating surface water or ground water system.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Isolate and mark the spill site, order all the people out of the place, who do not participate in the rescue work. Remove all possible sources of ignition, turn off vehicle engines, do not smoke and avoid open flames, use non-sparking tools and lamps. Use all recommended personal protective equipment during rescue work.

#### 6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

#### 6.3 Methods and material for containment and cleaning up

Absorb spilled agent with a suitable inert material (sand, earth, vapex) and store contaminated material in containers for collection of hazardous waste. For waste disposal, see Section 13.

#### 6.4 Reference to other sections

See section 7, 8 and 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Observe the principles of work in laboratory. Observe the normal operating procedures for handling chemical substances and mixtures. Do not eat, drink or smoke. Use personal protective equipment, see Section 8.

#### 7.2 Conditions for safe storage, including any incompatibilities

Prepared Reagent for HIP store in the dark at a temperature between +2 °C and +8 °C, not longer than 4 months.

#### 7.3 Specific end use(s)

The kit is designed for *in vitro* diagnostic devices.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Control parameters of the mixture components according to Government Decree No 361/2007 Coll.

CAS	Substance name	PEL	NPK-P	Note	Conversion factor for ppm
		mg/m <sup>3</sup>	mg/m <sup>3</sup>		
67-64-1	Acetone	800	1500	I	0.421
71-36-3	Butan-1-ol	300	600	I	0.330

PEL - Permissible exposure limits; NPK-P - the maximum permissible concentration; D - a significant penetration of the substance through the skin or a strong irritating effect on the skin during exposure; S - the substance has a sensitizing effect; P - serious late effects of the substance cannot be excluded; I - causes irritation of mucous membranes (eyes, respiratory system), resp. skin. \* - the physico-chemical properties (e.g. explosiveness) are taken into account for NPK-P.

Exposure limit values in the workplace according to Directive No 2006/15/EC.

CAS	Substance name	Limit values				Note
		8 hrs		Short term		
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
67-64-1	Acetone	1210	500	-	-	-

The note "skin" attached to the exposure limit values in the workplace indicates the possibility of a serious penetration through the skin.

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**Limit values for indicators of biological exposure tests** are not defined according to Decree No 432/2003 Coll.

### 8.2 Exposure controls

#### Appropriate engineering controls

Sufficient ventilation.

#### Personal protective equipment

a. Eye/face protection

Safety goggles.

b. Hand protection

Protective gloves - rubber, resistant to caustic substances.

c. Skin protection

Protective clothing.

d. Respiratory protection

Not required with adequate ventilation, otherwise breathing apparatus.

e. Thermal hazards

Observe the regulations for handlings flammable liquids.

#### Environmental exposure controls

To eliminate the emergency conditions, have pre-prepared a decontamination mixture and appropriate collection vessels for reaction residues. Dispose of reaction residues and decontaminated mixtures as hazardous waste water in accordance with relevant legal regulations.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Reagent for HIP

a. Appearance .....	Clear colourless liquid
b. Odour .....	Ethanol-like
c. Odour threshold .....	Information not available
d. pH (at 20 °C) .....	Information not available
e. Melting point/freezing point .....	Information not available
f. Initial boiling point and boiling range (°C) .....	Information not available
g. Flash point (°C) .....	Information not available
h. Evaporation rate .....	Information not available
i. Flammability (solid, gas) .....	Flammable
j. Upper/lower flammability or explosive limits .....	Information not available
k. Vapour pressure (hPa) .....	Information not available
l. Vapour density .....	Information not available
m. Relative density (kg m <sup>-3</sup> ) .....	Information not available
n. Water solubility .....	Information not available
o. Partition coefficient: n-octanol/water .....	Information not available
p. Autoignition temperature (°C) .....	Information not available
q. Decomposition temperature (°C) .....	Information not available
r. Viscosity .....	Information not available
s. Explosive properties .....	Information not available
t. Oxidizing properties .....	None

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**9.2 Other information**

None.

**SECTION 10: Stability and reactivity**

Under normal conditions of use and storage the mixture is stable.

**10.1 Reactivity**

Vapour/air mixtures are explosive at intense warming.

**10.2 Chemical stability**

The mixture is stable at normal temperature and pressure.

**10.3 Possibility of hazardous reactions**

Risk of ignition or formation of inflammable gases with chromium (VI) oxide, strong oxidizing agents, strong reducing agents, chromosulfuric acid, fluorine and nitric acid.

Risk of explosion with chloroform, hydrogen peroxide, halogen oxides and organic nitro compounds.

Exothermic reaction with alkali metals, alkalit earth metals, aluminium, strong reducing agents, acid chlorides, bromine, alkali hydroxides and sulphur dichloride.

**10.4 Conditions to avoid**

Heating.

**10.5 Incompatible materials**

Rubber, various plastics.

**10.6 Hazardous decomposition products**

No dangerous decomposition products known.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****a) Acute toxicity**

The mixture is harmful when ingested.

Ninhydrine (100 %)

Rat oral LD<sub>50</sub> (mg·kg<sup>-1</sup>).....600Rabbit dermal LD<sub>50</sub> (mg·kg<sup>-1</sup>)..... not applicableRat inhalation LD<sub>50</sub> (mg·l<sup>-1</sup>)..... not applicableRat inhalation TLS (g·kg<sup>-1</sup>)..... not applicable

Acetone (100 %)

Rat oral LD<sub>50</sub> (mg·kg<sup>-1</sup>).....5 800Rabbit dermal LD<sub>50</sub> (mg·kg<sup>-1</sup>)..... 20 000Rat inhalation LD<sub>50</sub> (mg·l<sup>-1</sup>)..... 76Rat inhalation TLS (g·kg<sup>-1</sup>)..... not applicable

Butan-1-ol (100 %)

Rat oral LD<sub>50</sub> (mg·kg<sup>-1</sup>).....790Rabbit dermal LD<sub>50</sub> (mg·kg<sup>-1</sup>)..... 3 400Rat inhalation LD<sub>50</sub> (mg·l<sup>-1</sup>)..... 18Rat inhalation TLS (g·kg<sup>-1</sup>)..... not applicable**b) Irritability**

Reagent causes skin and respiratory irritation. Repeated exposure may cause skin dryness or cracking.

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**c) Corrosion**

Reagent for HIP causes serious eye damage.

**d) Sensitization**

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

**e) Repeated dose toxicity**

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

**f) Carcinogenicity**

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

**g) Mutagenicity**

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

**h) Reproductive toxicity**

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

**SECTION 12: Ecological information****12.1 Toxicity**

The mixture is not classified as toxic to environmental.

**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**

The product does not have the properties of PBT and vPvB. Assessment based on the ingredients that do not have properties of PBT and vPvB.

**12.6 Other adverse effects**

There is no information about any special danger for environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Dispose of in compliance with applicable regulations for hazardous waste management. Do not drain into the wastewater. The mixture should be discarded as a laboratory waste. Incinerate residues of the mixture in a hazardous waste incinerator. Contaminated packaging must be treated as hazardous waste.

Waste code	07 07 04	Other organic solvents, washing liquids and mother liquors.
	15 01 10	Packaging containing residues of or contaminated by dangerous substances
	16 05 06	Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

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**SECTION 14: Transport information**

Not governed by regulations for transport of dangerous goods (ADR).

**14.1 UN number**

Not specified.

**14.2 UN proper shipping name**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.3 Transport hazard class(es)**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.4 Packing group**

ADR/RID: –

IMDG: –

ICAO/IATA: –

**14.5 Environmental hazards**

The mixture is not hazardous to the environment during transport.

**14.6 Special precautions for user**

No data available.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not transported.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP).

**15.2 Chemical safety assessment**

Assessment was not carried out.

**SECTION 16: Other information****List of H, P-statements and R-phrases**

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Name of the mixture: Reagent for ACETOIN test

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P280 Wear protective gloves/protective clothing/eye protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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R-phrases: R10 Flammable.  
R11 Highly flammable.  
R22 Harmful if swallowed.  
R36 Irritating to eyes.  
R37 Irritating to respiratory system.  
R38 Irritating to skin.  
R41 Risk of serious damage to eyes.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

**Recommended restrictions on use**

This compound is designed for professional use. It should not be used for purposes other than those described in Section 1.2.

**Information about data sources used to compile the Safety Data Sheet**

Material Safety Data Sheets of raw material suppliers, ECHA (European Chemicals Agency), corporate documentation for products.

*Declaration*

*The safety data sheet contains basic data corresponding to the present state of our knowledge and experience, in accordance with applicable regulations. The foregoing information was gathered with the utmost care, but that does not mean that it is complete and should be used as the only correct information. Erba Lachema s.r.o. is not responsible for any damages caused by improper use and handling of the mixture.*